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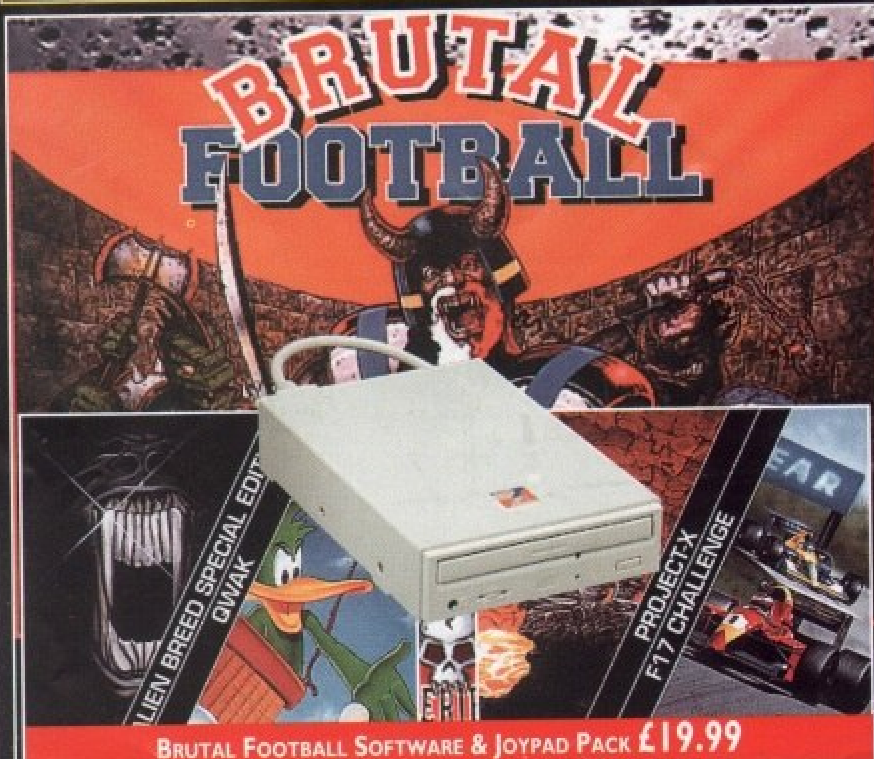
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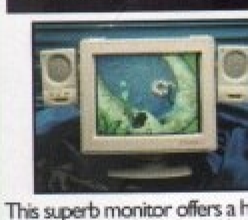
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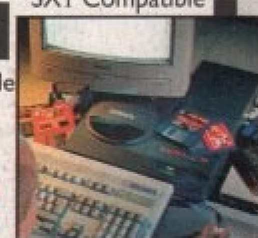
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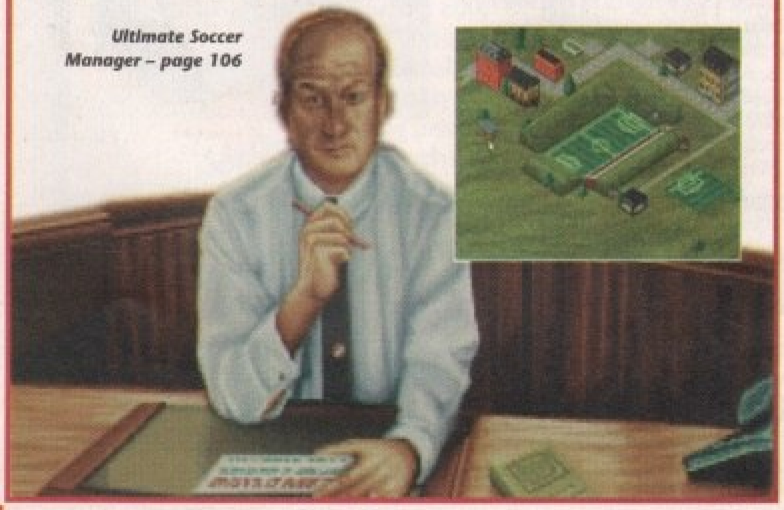
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The essential guide to Amiga gaming

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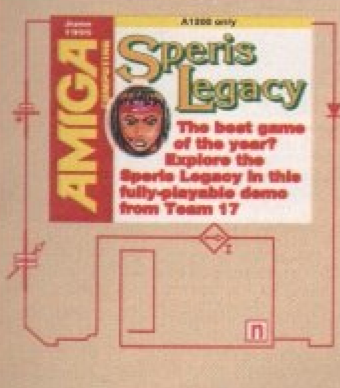
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Next issue on sale 1 June

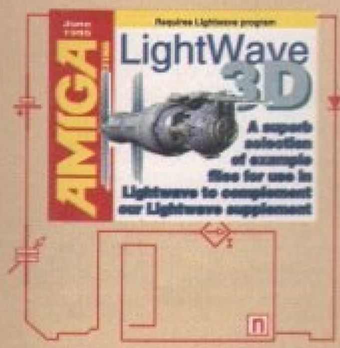


The Coverdisks

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Speris Legacy

Team 17 are best known for mega-games such as Alien Breed and its sequel, Tower Assault. Well now they've gone cute and cuddly on us with Speris Legacy. Can you complete our fully playable demo



LightWave examples

Your Amiga and Lightwave are an awesome combination. Just look at the special effects in Babylon 5 currently showing on British TV. To complement our LightWave supplement, we give you a LightWave examples disk full of scene files, surfaces and LightWave macros

Cover Story



Life after death?

Adam Phillips charts the demise of Commodre and the long-awaited revival of the ultimate enthusiast's machine

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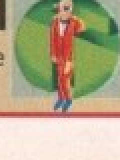


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Amiga Guide





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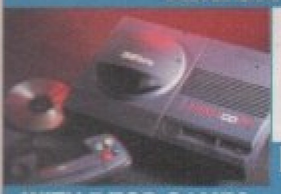
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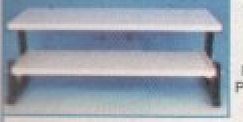
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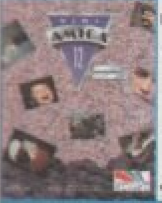
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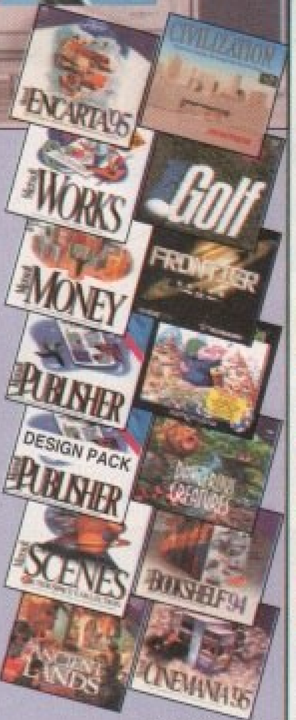
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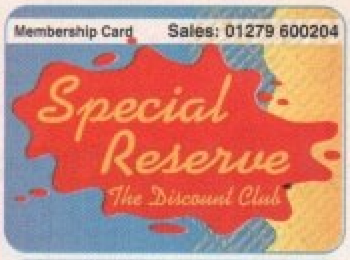
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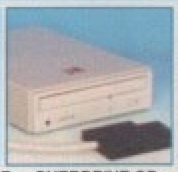
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NEWS

By ADAM PHILLIPS

Moment of truth

By the time you read this, 20 April will have been and gone. On that day, the future of the Amiga will be decided. The bidding auction we've been waiting for has finally materialised thanks to Escom's hasty purchase of the Commodore logo and its subsequent bid for the rest of the defunct company.

In a notice sent out to all interested parties by the US counsel for Commodore, the document lays out the agenda for the proceedings and verifies Escom's official bid. On Thursday 20 April, all interested parties will meet at the New York offices of Commodore's legal firm, Fulbright Jaworski, at 10am. At the moment, Escom's bid for all Commodore's assets stands at $5 million, plus the $1.4 million already paid for C='s logo. Any subsequent bid must increase this amount in increments of $1 million to start the auctioning process and then $100,000 from thereafter.

The estimated final price for the company is expected in the region of $10-15 million. Once the auction has taken place successfully, a court hearing will be held on April 21st at 10am to approve the sale. Once approved, fresh stocks of amigas should be on the shelves come Christmas '95 fresh stocks of Amigas should be on the shelves come Christmas '95, ready for the busiest shopping season of the year

Blissful rumour

It has been rumoured that both the Commodore UK MBO and States-based CEI, the other two principle players in the buyout, are in discussion to form a joint venture if either should win. Allegedly, plans laid out state that CEI will be responsible for the distribution and support of the Amiga in North America. They will also create an R&D team and produce a worldwide marketing strategy, both in conjunction with Commodore UK.

While the whole setup sounds ideal, there is a thorny problem that could bring the plan to its knees – the situation could be illegal. Once the bid has gone through and either of the two parties win, they can do what they want. Until this happens though, there's a distinct possibility that any discussions between two rival bidders could be seen as breaking the law.

David Pleasance, joint managing director of Commodore UK wasn't prepared to comment on the rumour.



The European Festival of Animation: Expect to see some of the Magic Camera Company's work (as featured in the April issue of Amiga Computing) at the festival

Wanted: Animations

With computer animation becoming rapidly more available to Joe Public through the likes of Imagine and LightWave, the problem has always been getting any final work seen. To coincide with the British Film Institute's celebratory events of cinematography in the last 100 years, the European Festival of Animation could be part of a solution that will showcase some of the best amateur and professional work from all over the world.

At the moment, they are looking for animations generated on any program that has been inspired by the last 100 years of the moving image in cinema or television. They are interested in pieces that have high creative content as well as the technically stunning, so there's plenty of room for first time animators as well.

Entries should be sent on disks which should be clearly labelled with the sender's name and address. The organisers, Oxfordshire Independent Video, would also like a covering letter telling them about the program used to generate the anim and any other relevant details. Finally, make sure the original disks aren't sent because the organisers can't promise that all entries will be returned.

The festival itself is running from 27 September to 1 October and as well as showcasing the best in animation, there's a wide selection of exhibits, concerts and lectures from professionals in the industry. For more details on the European Festival of Animation, send an SAE to Mary Milton, the festival's administrator. The phone number and address are: 01295 273334 Oxfordshire Independent Video, Town Hall, Bridge Street, Banbury.

Escom cause a rumble

The favourite to win the bid at present is the German-based company Escom. While the firm is a massive success in its home country, it's only just beginning to make an appearance on the streets of Britain in 24 stores nationwide. This is set to change very soon.

Rumbelows, the high street electrical retailers, recently closed down, leaving 231 stores vacant. Escom have leased these sites to sell their goods in, which could be great news for the future of the Amiga with instant support in Escom's shops across the country if the bid goes through.

Wanted: Programmers

One of the questions being whispered in the ear of the games industry at the moment is where are tomorrow's programmers going to come from? With PCs costing an arm, a lung and a leg to afford, and up until very recently the Amiga's future shrouded in bankruptcy, the original breeding ground where today's elite programmers learnt their trade over a low-cost computer in a bedroom somewhere in Barnsley is feared to be becoming a thing of the past. As big companies continue to buy out every home-grown software company on the planet, the opportunities for this low profile talent to find a voice in the increasingly commercial driven industry is becoming more and more difficult.

Paradigm Data Systems, producers of business software, have realised that there is still a mass of programmers out there brought up using the Amiga who are in desperate need of being recognised. The company is on the look out for any kind of coder, whether it be PD or professional games coders, to fuel the firm's plans to break into the under-nourished Amiga games market.

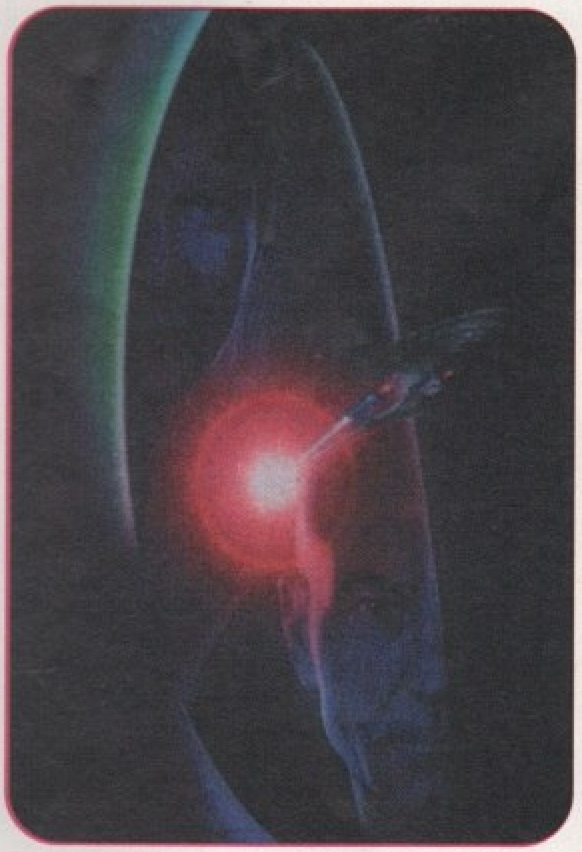
With several games currently under evaluation, the Wales-based company wants any interested parties to give them a call on 01633 450292.

Star Trek: The mouse pad

To add further to the mass of marketing goodies available to those strange creatures obsessed with the cult series, mouse pads featuring the various crew and ships from both series of Star Trek and the Generations movie are waiting to be beamed down to a desktop near you.

There a five different designs in all and any Star Trek fan will obviously stop reading this second, pick up the phone and start quoting credit card numbers in Klingon at the bemused lady on the other end.

Each pad costs £9.99 and are available from Logic Computer Products on 01992 625323.



Star Trek mouse pads: A Trekkie/computerphile's dream come true

Software for the budding bilingual

After the success of their previous educational release, 10/10 German is the latest title to be added to 10 out 10's swelling software ranks.

Like all of their products, the software is designed for the Modern Languages National Curriculum and contains 36 specific challenges.

The program is split into six games that will hopefully encourage children to learn by the use of Attainment Targets and Certificates. Topics include words, phrases, sentences, grammar, shopping, travel, sport, family, school and health.

"For so long we, as a nation, have been the poor man's relation in Europe when it comes to being bilingual", commented Peter Davidson, the company's director. "And that's why we are releasing, over the next three months, a suite of Language tutors. French has already been released to critical acclaim and German is second in the series."

For more details, phone 10/10 software on 01142 780370.

News briefs

Old for new

Owners of the Supra V Fast Class modems can now get them upgraded to V34 as well as V Fast Class for £74.99 which includes return postage thanks to the First Computer Centre in Leeds. The offer runs from 1 April to 20 June only.

Send your modem well packed and under recorded or registered delivery to: Modem upgrade department, First Computer Centre, Unit 3 Armely Park Court, Stanningley Road, Leeds LS12 2AE. First Computer Centre can be contacted on 0113 2319444.

Canadian Amiga show

For anyone with money to burn and a burning passion for the Amiga, they may want to consider paying the Amijam '95 show a visit. The only hitch is that it's at Calgary in Canada – a fair distance to travel if you're based in Britain.

The show itself consists of seminars, workshops, exhibit areas for games, hardware and software, question and answer sessions, fix-it booths and more. The event runs from 15-16 July and any enquiries about pricing and booking should be made on 0101 403 244 6990.

I wonder if there will be any Spaniards going.

Cyber drunk

Bored with cappuccinos at the Cyberia Café in London? Fancy a Jack Daniels on the rocks with a touch of cyber thrown into the cocktail? With the arrival of The Six Bells Pub in Cambridge, it's now possible to travel the information super highway plastered, at 28000 baud rate without being disconnected.

Animators unite

The producers of the Multimedia ToolKit, as featured on last month's cover, have released the Animations CD, another double CD collection priced at £19.95.

The combo consists of over one gigabyte of anims from artists all over the world, and is compatible with both the Amiga and PC. Although these disks don't boot directly on an Amiga, they can still be used (on a CD32 as well) through the use of Weird Science's Network CD. The animations vary in size (up to 10 megs of RAM to display some) and come in a variety of differing picture formats – IFF, FLI, Movieplayer and Deluxe Video.

Up until the end of May, interested buyers can pick up the collection for £14.95 and Weird Science can be reached on 0116 2340682.

Crossing formats

The producers of CrossMac have announced the imminent arrival of CrossDOS version six. Boasting quicker floppy access, faster hard drive writes, the ability to create an AS-DOS partition on an Amiga hard drive and a host of other features, its makers, Consultron, are selling the product at $60.

To order, phone Hi-Soft on 01525 718181 for a British price.

Final Data sequel

Those terribly nice people at Softwood have been busy hammering away at their coding keyboards and have come up with Final Data 2. Some of the new features that will aid database users are as follows: Non-contiguous selection of rows and columns (you can now select multiple rows or columns that are not adjacent to each other), database queries (query requester that lets you define complex search criteria), sub-lists (display rows which have either been located by query or manually selected), memos and running calculation columns.

For the full version, newcomers can expect to pay £39.95. Users wishing to upgrade from the previous version should call Softwood on 01773 836781.

* * * *

Women on top

At the moment, thousands of women across America are furious at the US Congress. Declaring that the first 100 days of the 104th Congress has been a "war on women", a news group has been set up on the Internet called the Women's Leadership Network.

Through the use of daily bulletins and debate, its leaders hope to inform and stir the female (and sympathetic males) population of the States that use the Internet into action come election time in '96.

Their web address is:

http://www.interport.net/~asherman/wln.html

* * * *

Stay tuned

For the latest news on *Amiga Computing* and all things Amiga, take a look at our home page. Tap in the following URL Web address:

http://www.demon.co.uk/amigacomp

While you're there, take a look at our list of top ten fave sites on the Internet.

* * * *

Cut price CD32

Silica's acclaimed CD32 Critical Zone pack has just received a price slash. Falling by £40 to £199, the package includes the CD32 console and seven games – Cannon Fodder, Diggers, Liberation, Microcosm, Oscar, Project X, Ultimate Body Blows among the gaming crop.

For more details, call Silica on 0181-309 1111.

Indulge yourself sonically

With more and more pros turning their hand to sound production on computers, Logic 3 have released the Screenbeat range of speakers to hopefully corner a slice of the multimedia boom. There are seven models, from screen-mounted units and sub-woofer monitor base systems, through to mini towers. All have amplifier circuits and bass resonance chambers.

Prices begin from £14.99 and for further information, call Keith Newman on 0181-900 0024.



Screenbeat: The latest set of speakers for multimedia and game users

Jumping on the bandwagon

To pay testimony to their forward-thinking attitudes for the technological future, both the Body Shop – the animal-friendly skin and hair product people – and Legal & General – that company with the umbrella – are launching their firms onto the Internet as a new access area to their services.

The Bodyshop's intention is to open a link for data on social and environmental issues and, ideally, talk to people in more depth about issues they may not have contemplated before which is not as readily available over the counter of the richly aromatic shop. Their address is: http://www.the.body-shop.com

Legal & General are launching a personal finance service, initially, in the form of a buyer's guide to mortgages aimed at first time buyers.

In addition to this token gesture, the company will be providing a 'What's new' page which will contain details on a special offer on home contents insurance and an opportunity to request financial planning advice.

Their address is: http://www.cityscape.co.uk /users/dd75

Computers in pole position

According to a survey carried out by GfK Marketing, British households spent more on computer equipment for the home than on any other consumer durable during 1994. Over one million home computers were sold in the year to December 1994 which represents a total market worth £827 million. This compares with £644 million for large screen TVs, £587 million for VCRs and £508 million for audio systems.

Obviously, the majority of these units were PC-based fitted with CD ROM drives but by this time next year, hopefully, this imbalance will have swung back in the Amiga's favour. In the meantime, as indication of how expensive the PC is in the wallets of most people, the second-hand market has seen a boom from 28 per cent in December '93 to 41 per cent in December '94, with the average price for a machine coming in at £250.

Just goes to show that there is a definite home market for a home computer in the £200-£300 range. Like the Amiga for example.

A sound upgrade

The critically acclaimed Studio 16 has just received an upgrade to version 3.01 from its manufacturers SunRize industries. The makers are claiming that this version is the most powerful yet, with improved disk access times and new SMPTE timing options.

The Meters modules now have Amilink integration which means you can SMPTE timecode directly from the Amilink, freeing one of the audio channels. Studio 16 is now compatible with third-party graphics cards such as Picasso and Retina, giving up to 1280x1024 resolution. The idea is to allow users to run all Studio 16's modules without any overlap of windows.

Current owners of version 3 can upgrade for $29 and the complete new package for first time buyers is $240. For ordering details, call SunRize Industries on 0101 408 374 4962.

The professionals

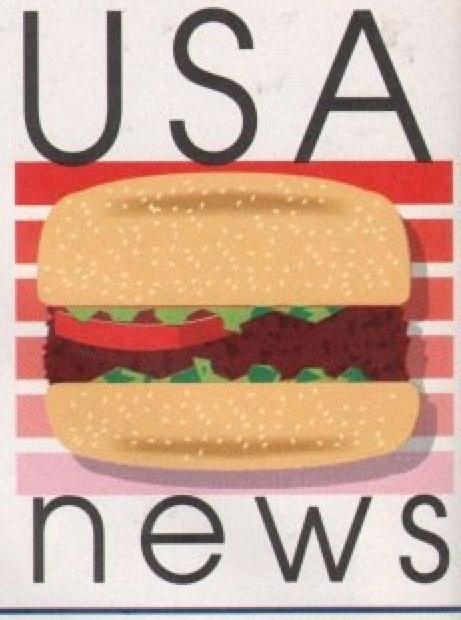
With the imminent arrival of Lightwave 4, which everyone is talking about, the 24Bit club are releasing a video showing off LightWave's skills to their best. Coming on a 10 minute cassette, it highlights some of the work done by animation leaders Amblin Imaging and Foundation Imaging, and more.

Footage from SeaQuest DSV and other projects that haven't graced British screens are all available at the press of the play button. Costing £4.95, the video can be ordered on 0141-946 2191.



Professional results: See some of the industry's best work

Closing up shop



Denny Atkin reports on yet more casualties of the Commodore crisis

The never-ending Commodore liquidation saga has taken its toll on more US companies. According to a former GVP employee, the company liquidated on 5 April. GVP owners can still find some support for the company's products: At least one company has started producing the custom GVP-compatible RAM SIMMs (at prices lower than GVP's), and a company in Germany has announced an updated ROM for GVP hard drive controllers. Also, many of GVP's products were designed by outside developers; ImageFX is already available from creators Nova Design, and other GVP products may reappear from other companies.

Meanwhile, the future of Amiga products and support from Elastic Reality (nee ASDG) is in question, as the company was recently acquired by Avid Technology, a major player in digital video hardware and software. The $45 million deal also included the purchase of UK software developer Parallax.

Avid aren't involved in the consumer market, which doesn't inspire any confidence that they'll worry much about the Amiga market. Even less encouraging is the statement from Avid Vice President, Bob Sullivan, that the company is committed to supporting multiple platforms, namely Macintosh, PC, and Silicon Graphics.

Finally, INOVAtronics has been described by one former employee as being "in a coma" awaiting the resolution of Commodore's sale. The new version of Directory Opus comes from another company, and CanDo is in limbo for the moment.

3D CD

Syndesis are working on an update of their 3D-ROM CD, and want your help. If you're not familiar with the product, The Syndesis 3D-ROM is a CD-ROM collection of more than 500 freely distributable 3D models, in AutoCAD DXF, 3D Studio, Wavefront, LightWave, and Imagine formats. It's also got more than 400 tileable, wrappable texture maps.

It includes a fully-indexed, cross-referenced catalogue of the objects. The disc includes demonstration models from companies such as Viewpoint Animation Engineering, and 28 Viewpoint demo models are present. More demo objects were contributed by Noumenon Labs, VRS Media, Mira Imaging and other commercial modelling companies.



By the time you read this, a new version of the CD should be available – the company recently put a call out on the networks for 3D objects to fill out the second disc. The 3D-ROM is an excellent source of 3D objects for animations, whether you're looking for a pay phone or a starship.

For more information on the 3D-ROM and its sequel, contact Syndesis Corporation, PO Box 65, 235 South Main Street, Jefferson, WI 53549 USA; Phone (414) 674-5200; Fax (414) 674-6363. You can also e-mail 76004.1763@compuserve.com.

PAWS update – it's nearly there

One company still hard at work on Amiga products is Silent Paw Productions. Their PAWS (Portable Amiga WorkStation) kit still hasn't been released, but it's getting closer. The company received so much interest in their kit, which adapts your desktop Amiga into a laptop case, that they went back to the drawing board to incorporate user suggestions. They have redesigned the case and lowered costs to boot.

The Amiga 600 unit will be the smallest and will use the computer's existing keyboard, hard drive, and floppy. The 600 model will be closest to the size and shape of a traditional laptop, whereas the A1200 model is larger due to its motherboard, but has the same look and feel of the PAWS A600. The suitcase-sized PAWS 3000 and 4000 model features a tilt display and removable keyboard, and allows you to keep all your expansion cards.

A special PAWS-E unit is being designed for the European market. PAWS will support both 110 and 220 voltages, and the European model will handle PAL screens. Depending on the final outcome of the sale of Commodore's assets, SPP also hope to release an Amiga-compatible laptop called the Lynx, as well as a 68040-based desktop workstation called the Puma 40.

For more information, contact Silent Paw Productions, PO Box 1825, Manassas, Virginia 22110 USA; (703) 330-7290 – voice and Fax.

Image Master's new image

Black Belt Systems have expanded into the Windows NT and Windows NT markets, but the company remain committed to the Amiga as well. The new update of ImageMaster R/t, version 1.60, features a suite of new flame effects which can be added to images. Effects include gas flames, candles, log and forest fires, and even the oil wick of a hurricane lamp.

All the flame parameters can be adjusted, for example, independent control over the flame's base, middle, end and tip colours allows you to tailor the burn, even to rare metals such as sodium or magnesium, with no trouble. You have control over how much the flame distorts the background behind it, turbulence within the flame and more.

Also in the plasma suite is an extensive electrical generator which can be used to create lightning and other electrical effects. Preset or 'canned' effects include Summer Storm, Windstorm, Fibrous and Gamma Bursts. You have direct control over colour, glow, zagging, saturation, taper, width and more. As with the flame tools, all controls may be animated over time using ARexx, resulting in realistic travelling bolts and strikes.

Version 1.60 contains many other changes and improvements, including the ability to force all screens to 4-bit, 8-bit, or AGA, something that should help the performance of many of the weaker AGA emulations for the various graphics boards available for the Amiga. For more information, call (406) 367-5513 or fax (406) 367-2329. Upgrades from previous versions of ImageMaster R/t are $25 plus shipping.

Next Day **£5.00**
2-3 Days **£2.50** Saturday **£10.00**
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Keyboard is extra

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The A4000 Tower comes complete with 6 x 5.25" drive bays, 5 x 3.5" drive bays, real time clock, 7 x Zorro slots and 5 x PC slots.

Both Towers are easy to install.

TOWER A1200 .... **£499**
TOWER A4000 .... **£429**
EXTENDED KEYBOARD .**£29.95**
PSU 230watt **£99.95**
PSU 250watt (available 3/95) . .**£129.95**

VIDEO DAC 18-BIT

NEW £39.95

Video Dac 18-bit is a graphics card which allows the Amiga to display 262,144 colours simultaneously. The software can display images or animations created and saved with any other 24-bit program.

Video Dac 18-bit plugs externally into the RGB connector with thru' port capabilities, allowing the use of digitizers such as Videon, or a genlock recording with your VCR any image you created in 262,144 colours.

Video Dac 18-bit is able to split the screen and display images/animations at different resolutions or colours at the same time.

Medium Res:	320 x 256 PAL
	320 x 200 NTSC
High Res:	320 x 512 PAL
	320 x 400 NTSC
Overscan:	384 x 576 PAL
	334 x 482 NTSC
Max Res:	768 x 576 PAL
	668 x 482 NTSC

All resolutions display 262,144 colours

The free bundled software saves your images in the following formats: IFF, IFF24, RGB and Anim, plus a series of dithering modes to enhance the overall quality of the images.

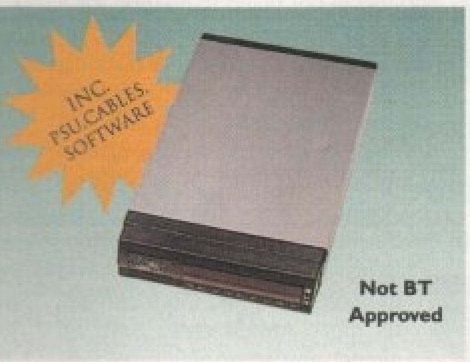
VIDEODAC **£39.95**

ACEEX MODEMS

Aceex Fax Modems feature: Full Haynes compatiblity, error detection + correction, modem cable and manuals included, NComm Telecommunications software, Auto dial, Auto answer and leased line support.

ACEEX v32 BIS 14,400 bps **£169**
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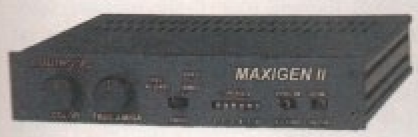


Not BT Approved

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MEGALOSOUND 8-bit direct- to -disk sampler, all Amiga's **£29.95**
VIDEOMASTER AGA Realtime video with sound + stills A600/1200 **£59.95**
VIDEOMASTER AGA RGB VideoMaster AGA plus ColourMaster .**£99.95**
VIDEOMASTER Realtime video with sound + stills A500/A500+ **£52.95**
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COLOURMASTER RGB splitter for VideoMaster **£52.95**
PROMIDI INTERFACE Amiga Midi interface **£19.95**

GENLOCKS/DIGITIZERS



GRAPHIC SYSTEMS

Maxigen 2 is a very high quality genlock for over-laying graphics onto VHS or SVHS. Full hardware fades, colour composition controls and excellent keying quality.

MAXIGEN 2 Genlock **£299.95**

PICASSO II

Picasso II is a 24-bit graphics card offering true retargetable graphics on any Zorro based Amiga. Picasso resolutions are available from the standard ScreenModes program, all useable by OS friendly programs. The new Chunky option offers incredible speed with a 256 Workbench which is many times faster than AGA! All screens are stored in fast RAM, removing 2MB Chip RAM limitations. PicassoMode allows the creation of custom screens quickly and simply. Picasso II comes with TVPaint Junior and drivers for ImageFX, AdPro, ImageMaster, Real 3D and GIF, IFF, JPEG and MPEG viewers. Also included is the MainActor animation program.

PICASSO II .... **£299.95** **WITH TV PAINT 2.0 £329.95**
PABLO Video Encoder . . **£129.95**

AGA FLICKERFIXER

ScanDoubler II is a full 24-bit AGA Flicker Fixer for the Amiga 4000. It automatically de-interlaces all AGA screen modes and scan-doubles non-interlaced PAL/NTSC modes to allow VGA monitors to display them. Supports VGA only, S-VGA and Multiscan monitors. Pixel sharp picture, even at 1440 horizontal resolution and has a standard 15 pin VGA type connector. Comes with composite video/S-VHS outputs.

SCANDOUBLER II **£399**



AGA FLICKER FIXER

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TANDEM CD-DE

This card allows you to connect a CD-ROM drive to your Amiga 2000/3000/4000, Syquest 3.5" and IDE HD's. Complete with cables, software and manual. ROM 2.04 or above.

TANDEM CD-DE CARD **£69**

OCTOGEN SCSI-2

SCSI-2 controller card for the Amiga 1500/4000 Upgradable to 8MB of RAM.

OCTOGEN 2008 .... **£129**

VGA ADAPTOR **£15**

All products have a 12 month warranty unless otherwise specified
Trade and Educational orders welcome - Worldwide distribution available

The hot air fair

Spring was in the air, and the computer industry came out for the March ECTS. Gareth Lofthouse reports on the state of play in PR land



The time had come round once again for the bi-annual industry exercise in hype – the European Computer Trade Show. Gathered from around the world were the PR warriors of every major player, girded up in their battle dress of wide-boy jackets and slip-on shoes.

Set in Olympia, this clash of the titans was accompanied by all the posturing each major company could afford. There were futuristic stands costing up to £750,000 pounds, multimedia presentations blaring out of every nook and cranny, and scantily-clad sex gods and goddesses to lure the punters in. And this is the industry that says it's growing up.

Of course it will surprise no one to hear that the main focus was on the PC, the Playstation and the Saturn, or that new products for the Amiga were less plentiful than has been the case in the past. After a year in which the Amiga has been out of production, this is inevitable.

Nevertheless, a glance at this month's System On-Line shows that there are enough game titles lined up for release in the next few months to keep us happy. Serious products, on the other hand, were hard to come by, but then the ECTS has always had leisure as its key theme anyway.

Talking to the various publishers revealed that in most cases they were still committed to developing for the Amiga platform for the time being, but the lack of movement regarding the buy-out naturally cast doubts on how long they will continue to offer their support. Those who have previously been sole developers for the Amiga are understandably shifting the emphasis of new projects in other directions – and sadly this is even true about those darlings of the Amiga scene, Team 17.

If developers concentrate on the essential strengths of gameplay they can still create winning games for the Amiga, regardless of its relative lack of polygon-shifting power.

Companies like Microprose were happy to talk about converting PC games for the Amiga, but they were less keen on developing directly for our platform at this current time. This is not a terrible state of affairs, but it does mean that a quick and final resolution to the Commodore situation is needed as soon as possible.

Despite these troubled times, having been to the ECTS it's my view that the industry will be making a mistake if it abandons the Amiga prematurely. There is a huge installed base of Amiga users in this country and this is not going to change for a long time, whatever happens.

Retailers are apparently becoming increasingly reluctant to take Amiga products on board, but nearly everyone we spoke to emphasised that a good Amiga release can still sell by the bucket load. Give us something with the right quality and the right price and there can still be more Amiga sales than on almost any other platform – witness the success of Sensible World of Soccer, for example.

A title like SWOS also emphasises the danger of another trend noticeable at the ECTS. Developers are frothing with excitement at the prospect of working for technologically-superior platforms like the Playstation, but Sensible's award-winning games show the merits of putting gameplay before graphics.

More new machines with escalating specifications are on the way to grab the gaming world's attention. But in the bid to make the most of the new machines' amazing graphic capabilities, developers' new products are already showing signs of weakness in other departments.

Despite the huge quantities of hot air around, the concept of originality seems to have gone down the drain. New 3D racers and beat-'em-ups look stunning, but it's hardly the revolution that's been promised. To-Shin-Den on the Playstation was visually outstanding but its cinematic camera movements seemed to be at the expense of playability when I tested it.

My point then is this: If developers concentrate on the essential strengths of gameplay they can still create winning games for the Amiga, regardless of its relative lack of polygon-shifting power. What's more, if publishers and retailers get cold feet at this stage, they're in serious danger of cutting off a very large market – and that in turn will mean losing a whole stack of sales.

AC

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IDG MEDIA

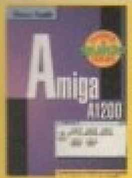
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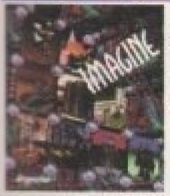
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PC Task 3

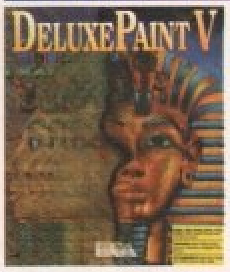
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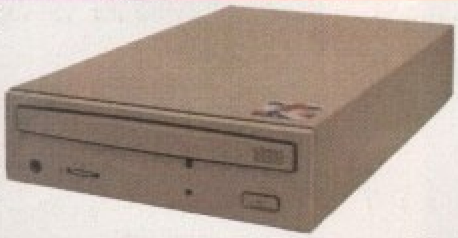
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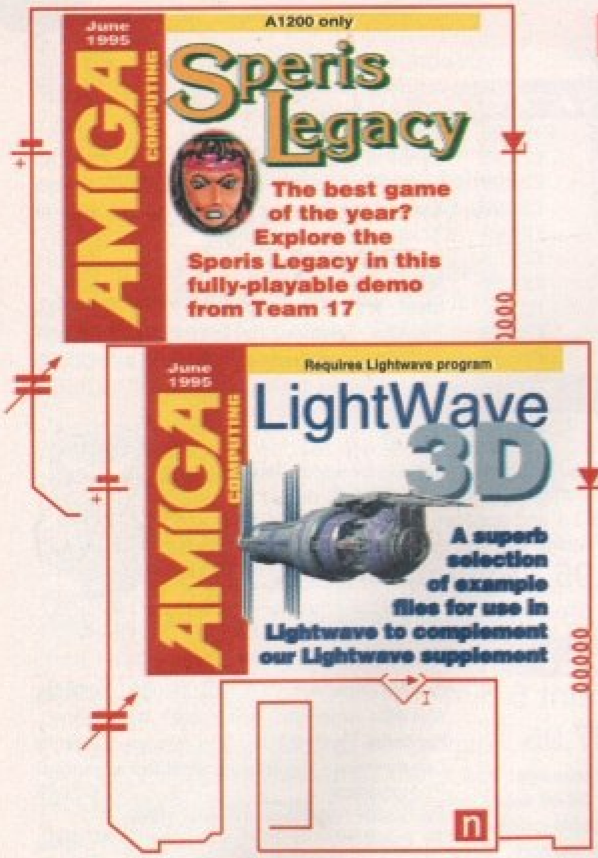
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THE Cover

Pure genius

Speris legacy

Supplier: Team 17

From the talented crew who brought you the great game Alien Breed comes a much more cute and cuddly experience in the form of Speris Legacy. This is a game of mystery and adventure featuring Cho, our little hero who must wander the land and defeat all known forms of evil and treachery.

The aim of this fully-playable demo is to interact with the various friendly characters, asking them probing questions as well as battling the numerous nasties who are intent on making your life both hard and preferably very short. Ultimately, you must find Guradic and present him with his pipe. But there's a lot to do before you can get even close to finishing the demo.

For instance, how the heck do you get past the highly unfriendly troll who won't let you cross the bridge? Maybe Rupert the inventor can help here.

To play the game, simply boot your Amiga with the Speris Legacy game disk in your disk drive. Then, use your favourite joystick to move our little hero around the screen and into the various buildings.

When you get close to any character with whom you can talk, a little speech bubble will appear. Pressing the fire button in this situation enters the chat mode and you may now ask the character lots of awkward questions.

Holding down the fire button makes the power meter rise. The power meter level is used for the magic dagger, if you can find it that is. This little wonder of weaponry can be thrown at an opponent from a safe distance and then magically reappears in your inventory for use again. Don't worry though, you don't start the game completely unarmed – you have a little sword to hack and slash all and sundry on your merry travels. Pressing the fire button makes Cho slash his sword. Most opponents require multiple hits before they succumb to your blows.

ACCESSORIES

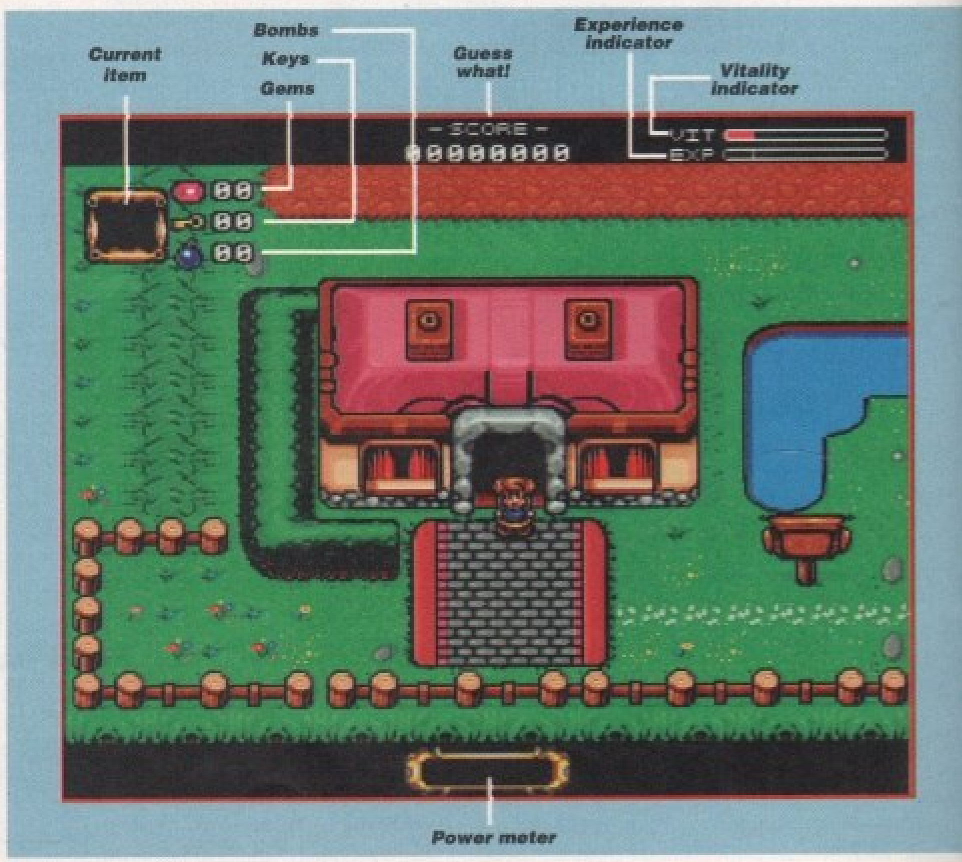
Any adventure wouldn't be complete without the ability to collect various goodies to use along the way. So, if you want to quickly dip into your pockets to check out what you are carrying, press the F2 key. This brings up a screen displaying any items and weapons. You may then use the joystick to move the square cursor to select any of your belongings. To quit the inventory screen, simply press the F2 key again.

Along the way you encounter various chests lying around, adding to the scenery. To get at the contents, simply face the chest and press the fire button. A small box will appear telling you what goodies were hidden within.

Despite the 'cutesy' look and atmosphere of this game, there are inevitably going to be situations where you must dispel with your cutesy image and get in some good hack and slash practice against the various nasties that wander aimlessly throughout the landscape. As mentioned before, you can swing your sword simply by hitting the fire button, but make sure you don't run into or get shot by the various nasties or you'll lose vitality points.

These points are shown at the top-right corner of the screen and suitably labelled VIT. Below this is the experience level of your character which changes as you

Well, here we are at the start of the game with home sweet home behind our little hero. I guess it's time to go exploring then



rDisks

A completely playable and brain-taxing demo of Team 17's latest game, Speris Legacy, and some example LightWave scene files await you on this month's CoverDisk

Those following the assembler tutorial as well as regular readers of the Amiga Guide music column, can find this month's associated files on CoverDisk number 2



These guys aren't very friendly and the safest course of action is to simply hit them without so much as a how do you do



This geezer is the first obstacle to overcome early on in the game. Maybe Rupert the inventor can help



Some characters are what you might call 'vacant' and suitably insulting phrases are available too

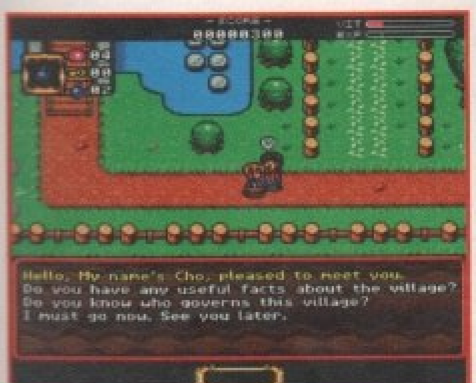


Let's have a butchers in these 'ere chests then shall we. Brilliant, this gem should go some way to paying the mortgage

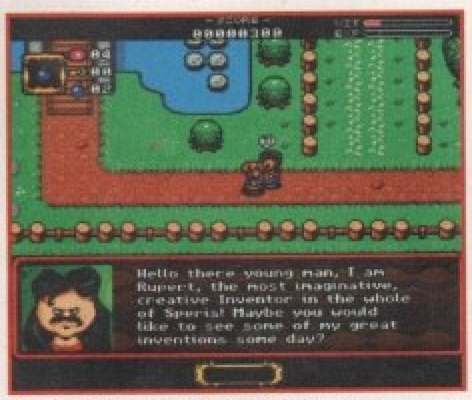
progress through the game. The top-left of the screen shows the secondary item you are carrying, such as a bomb. Anything displayed here will be used or offered to a nearby character when the spacebar key is pressed.

Also displayed in this location are the number of gems, keys and bombs you are currently in possession of.

If you get really stuck, well, you'll just have to wait until next month's issue where we might just print the complete solution to the game.



Pry into people's personal lives in chat mode with a host of probing questions to choose from

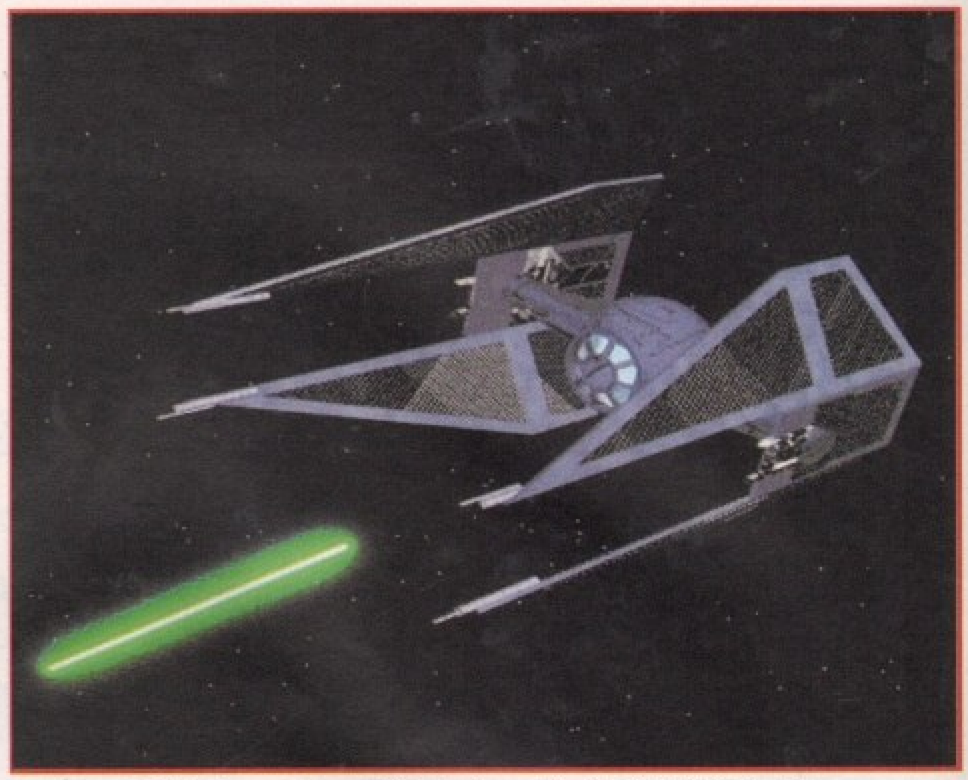


Take note of all the information you get from the characters in the game. This bloke's a bit egotistical though, and just look at that centre parting



AAAARRGHHH. I hate mazes in a game. This is where I cop out and leave it to you readers to solve. Good luck




Thanks to LightWave's awesome modelling tools, creating detailed objects is a breeze

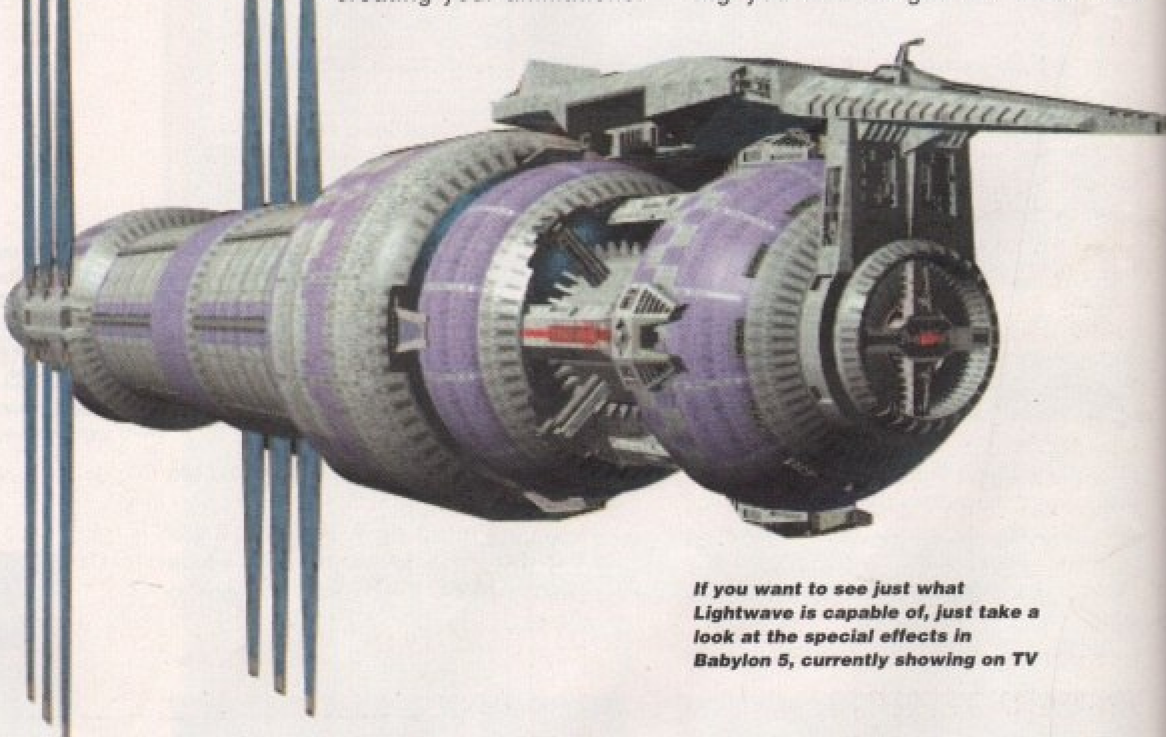
lightWave examples

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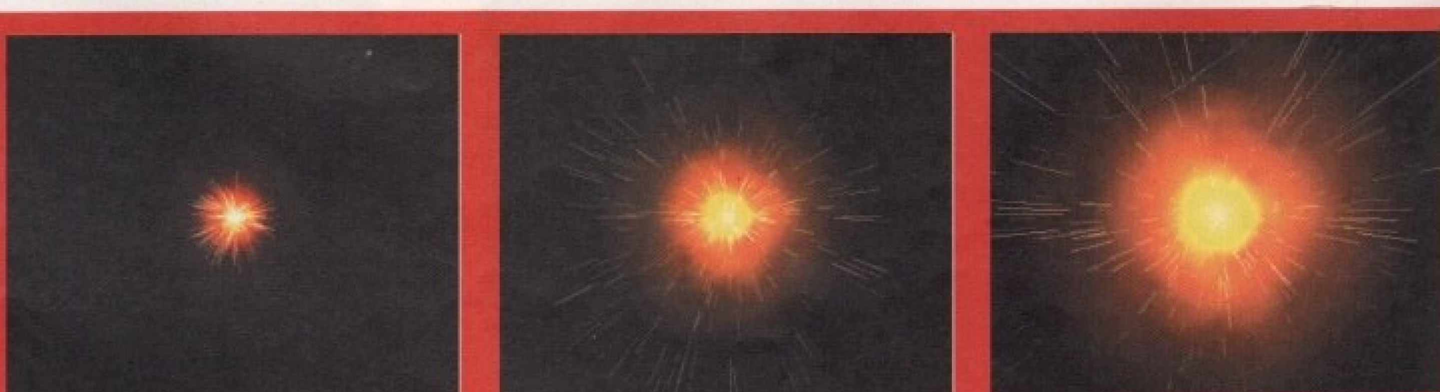
You have probably already checked out this month's LightWavePro supplement, and are probably also aware that LightWave is the most powerful and easy-to-use rendering package available for the Amiga, responsible for some of the spectacular special effects seen in films and TV series such as Babylon 5 (now showing regularly on TV), Robocop, the serial SeaQuest DSV, Star Trek: The Next Generation, and other popular shows.

Initially, LightWave was sold as part and parcel of the Video Toaster hardware package costing quite a few thousand pounds. It soon became apparent that LightWave was much too good to remain solely with the Toaster setup and some clever person decided it might be a good idea to release the software as a stand-alone version, thereby enabling us mere mortals with shallow pockets to create stunning animations and stills without the need for all that expensive Toaster video hardware.

There's not a great deal LightWave can't do, but one of the biggest hurdles facing all newcomers to both LightWave and 3D rendering and modelling in general is learning the tips and tricks which save time and effort in creating your animations. Such tricks of the trade are vital to becoming proficient and productive in the 3D world, and are essential if you are aiming to do it for a living. This is where LightWavePro comes in. In every issue you can find features and tutorials showing you how to get the most from


If you want to see just what Lightwave is capable of, just take a look at the special effects in Babylon 5, currently showing on TV

Here's a three-frame example from the 45-frame animated explosion complete with lens flares. An ideal effect for all pyromaniacs





Looks good enough to jump right into doesn't it?

LightWave. The majority of these are written by the very people who create the effects for the TV shows mentioned earlier, showing you all the tricks of the trade used during production.

LightWavePro also regularly features an examples disk often containing textures, tips, objects, and even entire scene files for you to experiment with to further your understanding of LightWave.

On disk one of this month's *Amiga Computing* you will find a selection of the kind of files you can get on the LightWavePro disk.

You will need to copy the relevant files from the directories on disk one into the corresponding directories in your LightWave 3D drawer. This is essential, otherwise LightWave will probably throw out error messages because it can't locate the required surfaces or objects.

ANIMATING EFFECTS

There are two scene files to play with. One is an example of how you can create a spectacular explosion effect using the object morphing feature, and the other shows how LightWave's Bones feature can be used to make animating an object easier. There are also a few LightWave macro files and a number of surfaces for you to use.

Also included is a patch program to update the Modeller program to version 3.5. The Metaform Magic tutorial within the LightWavePro supplement uses a 'metacar' object. This can be found on the disk in the Objects drawer and can be loaded into LightWave in order to follow the tutorial.

You will also notice an icon called Create LW Guides disk. This will create a disk containing two tutorial files. Both files are in standard AmigaGuide format and can be viewed using Multiview from Workbench.

The Lw.guide file has lots of general information and answers to common questions about LightWave, and the file in the Metaform Tutorial drawer is, guess what, a step-by-step guide to further increase your understanding of this powerful feature.

Before you can access these files, you must run this disk creator program and have a blank disk handy. When asked to insert a blank disk, just pop it into your drive and press return. When the All done message appears, you will have a disk that contains both the tutorial files ready to run.

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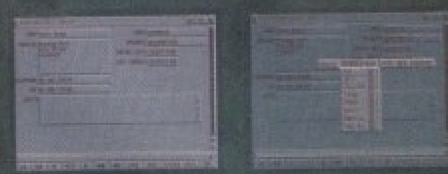


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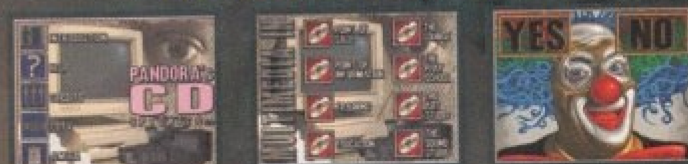
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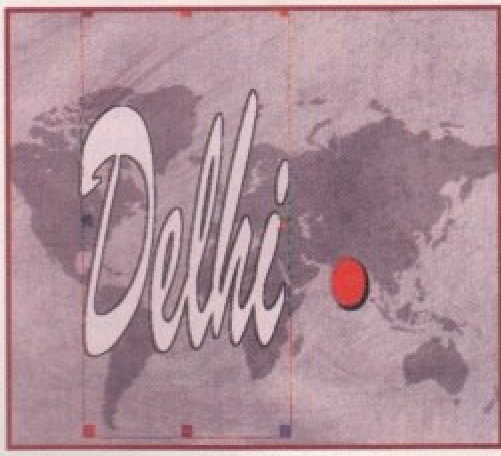
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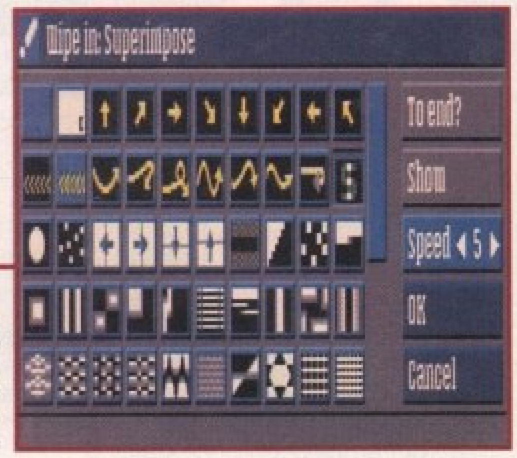
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The ScalaType facility allows outline fonts to be stretched to any dimension and the smoothing of jagged edges is aided by the new anti aliasing, Level 5



The new wipes are very effective and make a change from the usual straight/diagonal on and off routines

The legend returns

Scala gives the Amiga market a boost with the arrival of MM400. Adam Phillips reviews

With 'multimedia' now becoming common place in most computer user's vocabulary, Scala has been banding the term round for years and is probably one of the main success stories who have actually taken steps towards fulfilling the mystery catchword's potential. On its release, the MM300 version was met with international appraisal – hotel's use it for giving out computerised information, museums use it for displaying interactive facts, cable television companies use it to show their viewers how to install cable systems – the list appears to be endless.

Fortunately, there hasn't been any resting on laurels by the States-based company and the MM400 version has arrived. Scanning down the new features list, there is a twang of anti-climax at what would appear, at first sight, to be not that large an amount of new features and enhancements.

SUCCESS

Looking closer, though, reveals several improvements that should continue to carry the package along the road of financial success for the next couple of years. The main interface, like Deluxe Paint 5's last month, hasn't changed – it's only when you start delving about in the features that the new functions rear their head.

The new ScalaType font technology is one of the company's much hyped latest additions. Compugraphic fonts can now be quickly resized vertically or horizontally, and with better memory management. The results are impressive and even when used with the flowing font that is Brush, the curves came out well enough to be used in video productions. This is also aided by the new Super Hi-res mode.

Stretching a font has also been helped by the inclusion of a new level to the anti-aliasing – level five helps smooth away those rough edges. Graphics users can now import their masterpieces as a brush and resize them horizontally and vertically as well.

The AutoKerning has now been introduced for outline fonts so that there are now no glaring gaps between letters in a word, and this proves to be effective. The only real problem is using a bold typeface – there is a tendency on certain fonts for the auto kerning to work so well that your average Commodore monitor bleeds the letters together a little.

One of the most important new features is the support for a wide variety of graphic file formats. These now include GIF, PCX, BMP, TIFF, FLC, LBM, YUVN, Photo CD and Datatypes.

Also included are a set of new wipe-on effects. Gone are the days of text making its grand entrance straight on or diagonally. Now the user can indulge in spline-based curved fly-ons and offs, and each can be applied to eight different directions.

EX power

One of the most useful new features is the series of EXes that allows users to integrate the operation of video digitisers in the Edit menu. These images can be scanned straight into the program and then saved out as 24-bit IFF files for work using the likes of Photogenics or Deluxe Paint 5.

Coupled with this are EXes for Macrosystem's superb VLab Motion and Electronic Design's FrameMachine digitiser cards. To make the selection of a video image to digitise, a rather handy VCR EX menu can be opened up to aid you in your choosing. One thing to remember, though, is that the new EXes don't actually let you control VLAB through Scala – it only lets you digitise using VLAB through Scala.

The CD32 has also been given a look-in with two EXs designed to work in conjunction with the lunch-box-like console. Featuring the support for playback of audio and Mpeg digital video files, the internal version is used on the CD32 to play back Mpeg files and sound as well as Scala scripts. The External version is used to run MM400 scripts on the Amiga, with the CD32 as an external player for the video and sound.

What all the above basically translates into is a very powerful facility to produce professional quality presentations that incorporates all you'll need in terms of multiple media use. For those worrying about getting their hands on an FMV cartridge for the CD32, the MM400 has been designed to be compatible with the new Scala MD100 Mpeg decoder/encoder up for review next month.

The only problem is the Mpeg board won't fit in to a 1200 unlike the MM series. All its features are controlled through the Scala EX module incorporated into MM400.

Verdict

Anyone only half serious about multimedia would be a fool not to buy this package. It's quite simply the best package of its type. For those owning previous versions, at such a minimal price for an upgrade the new features should come in very handy.

The bottom line

Product: Scala MM400
Price: £299 Full package
£49 Upgrade from MM300
£99 Upgrade from MM200
Supplier: Scala (for upgrades)
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(for MM400 full package)
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Ease of use	**9**
Implementation	**9**
Value for money	**9**
Overall	**9**

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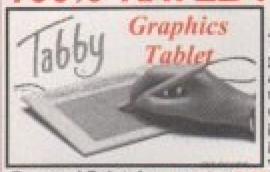
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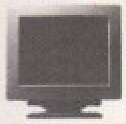
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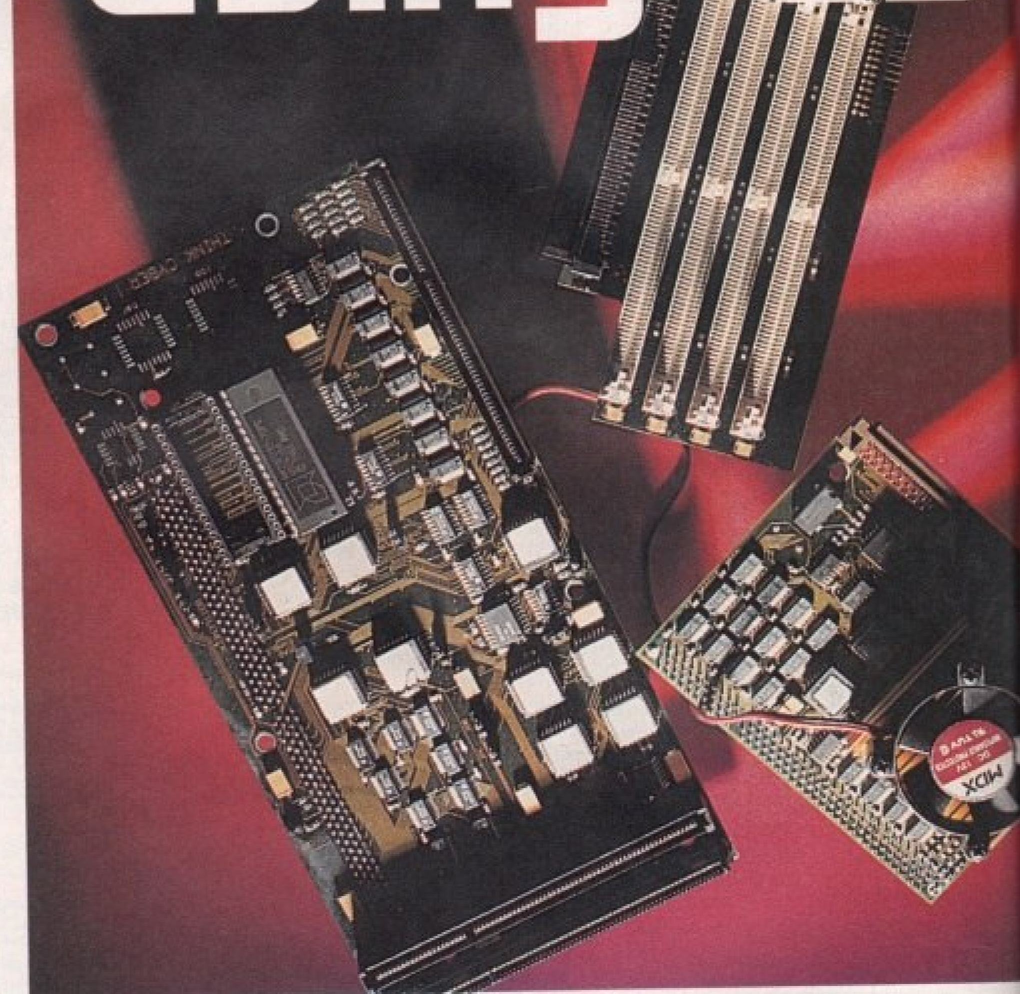
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Going do

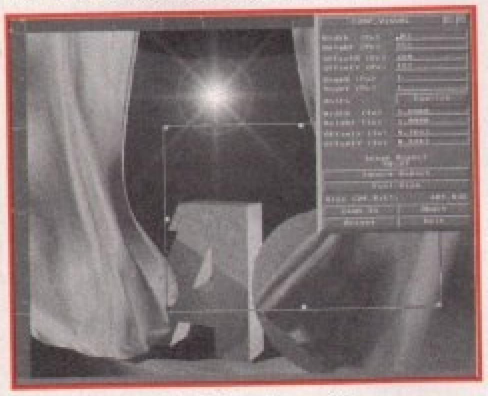


It has been painfully apparent for about 18 months that the 68040 isn't cutting the mustard as far as cross-platform competition goes. The Intel DX2, DX4, and Pentium processors have all left the Motorola chips for dead in the speed race, and even Motorola's own PowerPC Risc chip (which we'd hoped to see in the Amiga before Commodore self-destructed) is streets ahead.

Our latest addition to the 68k family, the 68060, is a different proposition. With its superscalar architecture, sophisticated pipelining, and much greater processing power, it is four times as fast as the 25MHz 68040 and a match for any Pentium. And now you can plug one into your A4000.

Phase 5 have been producing their A500 and A1200 Blizzard accelerators for a couple of years and have built a reputation for reliability and quality. This latest venture, though, is by far their most complex and advanced, so how does it stand up under test?

The evocatively named Cyberstorm is supplied as a three-piece card including a main board, which replaces the existing A3640 CPU board, a daughter board containing the actual 68060, and a RAM board with four 72-pin SIMM slots. Fitting these can be tricky as the hard drive has to be removed and the manual recommends fitting them separately, one on top of the other.



One major use for Cyberstorm will be in enhancing every type of image processing operation

If done in this way, the chances will be high that one of the units won't be properly seated in the others (not many of us like to push down too hard on our motherboards), leading to a boot failure. Bung the lot together beforehand, however, and it's not too difficult to slip them in and press the main board into place.

Memory modules from the A4000 motherboard are moved across to the Cyberstorm RAM board so that the processor has full burst mode access, but the card can be configured all the way down to 4Mb and will accept 70ns SIMMs, so most users shouldn't have to buy extra memory. You don't appear to have much choice in any case, as I couldn't find a jumper setting for 0Mb and our Cyberstorm didn't boot until it was populated to the minimum 4Mb.

BOOST

You'd be barking mad not to take advantage of the RAM card, of course, as it's supplied as part of the package and offers a healthy performance boost. With 60ns SIMMs and locally available burst mode, even the 68060 won't have to hang around waiting for memory to catch up.

The chip itself is mounted on a small daughter board with its own gold-plated heat sink and fan. The latter connects to one of your spare power plugs (which you'll find spidering out from the PSU), of which there are four, so no worries there. Fail to attach the fan's power supply (as I did once) and you'll

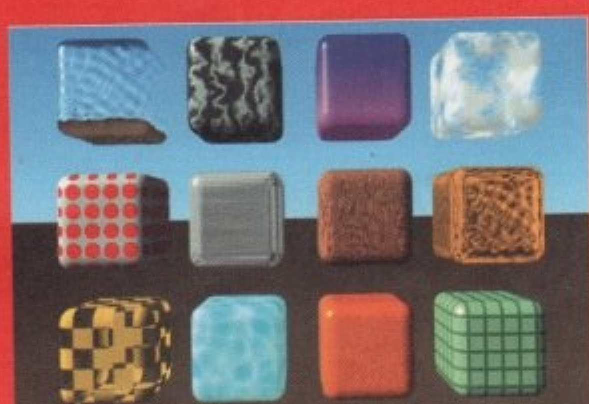
Under test

Using existing Amiga benchmarks is a bit difficult because none of them are designed with the 68060 in mind. However, our trusty Mips tester reported a staggering 82 Mips (over four times faster than the basic 68040 and twice as fast as Warp).

Floating point speed is difficult to judge in statistical terms because Sysinfo (the only benchmarker which didn't crash) reports only about 24 Mflops. At the same time, however, it states that the chip is running at 41 Mips, so we can't trust this reading. Something in the order of 50 Mflops would seem more appropriate.

A far better guide is to use existing application software, which is where real world benefits are seen. Lightwave, for one, renders at four times the speed of a 25MHz system with the same amount of memory, and ADPro carries out most of its maths-intensive operations at the same quadrupled rate.

Working with PageStream 3 (yikes!) is also vastly improved, especially when moving and re-sizing 256 colour images on screen, and DPaint V's full screen gradient fill finally takes less time than you can make a cup of tea in. In addition, every other package or utility we tried on the Cyberstorm was given a new lease of life, with directory listings appearing as if by instantaneous magic and word processors zipping through long files with a scrollful ease.



The Lightwave textures example scene is a good test of speed. Standard A4000 speed is 17 minutes 50 seconds, whereas Cyberstorm bangs out a frame in only 4 minutes 10 seconds.

...wn a storm



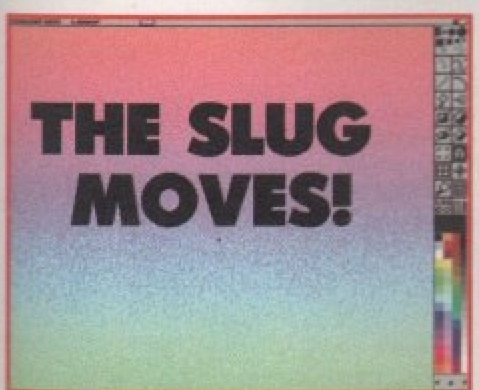
With the release of the first 68060 accelerator, Amigas can now do anything Pentiums can do. Stevie Kennedy straps himself into the Cyberstorm board and hangs on for dear life

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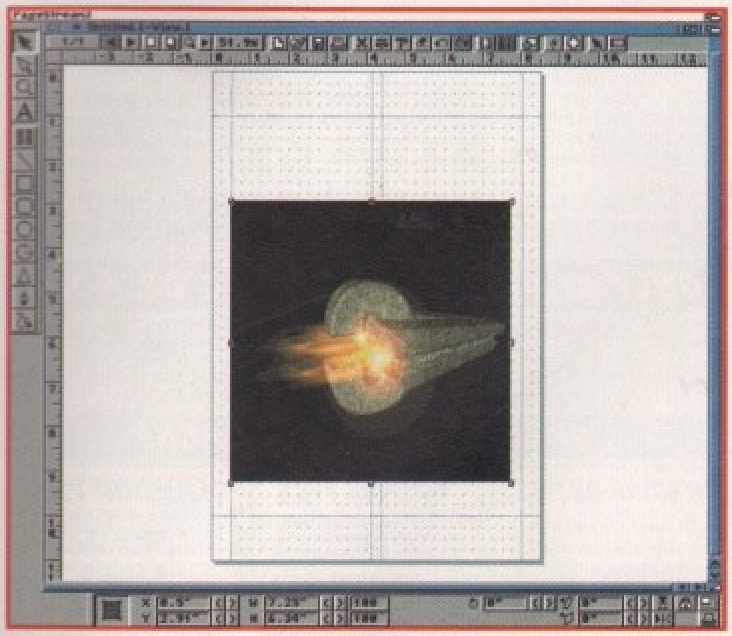
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Even the Amiga's slowest art package can now carry out operations without taking all day

find that the chip overheats and starts to bomb out.

Fitting the RAM board after the other two are in place can be a bit of a nightmare, as the thing sits in a vertical slot as far away from the main board's connector as it can get. The resulting leverage applied as you press it home makes for a sweaty time as you wait for one of the flimsy spacers to go 'crack.' Once in place, however, Cyberstorm works a dream with no need for further configuration and no messing with jumpers unless you add RAM, in which case the manual has a comprehensive list of jumper settings for every conceivable configuration.



256-colour DTP really takes it out of the poor old 68040, so Cyberstorm should be a welcome addition for Amiga publishers

Extended use shows the card to be a reliable and well constructed piece of equipment, and every program I tried on the Amiga worked fine except for the AIBB benchmarks, which is no big disaster. ADPro, LightWave, Dpaint – they all worked without crashes or tripping up. Even PageStream 3 (or 'bug central') was fine.

As a well produced piece of kit with the pedigree of Phase 5 behind it and a high-end Amiga community crying out for more speed, the Cyberstorm should find a small but eager audience among those who are desperate to upgrade from the 68040 but don't fancy the expense of a Raptor or Cobra at a minimum of £7000 a chuck.

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

4 Mb RAM

A4000

The bottom line

Product: Cyberstorm 68060
Supplier: Gordon Harwood
Price: £995 (with 0Mb RAM)
Phone: 01773 836781

Ease of use	9
Implementation	9
Value for money	9
Overall	9

Chip off the old block

Motorola's 68060 is a major advance on the technology behind the 68040 in that it has superscalar architecture and pipelining. New to the Amiga world, superscalar architecture is basically a design method which relies less on scaling down the size of the chip than it does on using complex and powerful methods to make better use of the processor's speed.

In a superscalar design, more than one instruction can be worked on at a time, leading to huge increases in CPU power. With pipelining, this sort of operation becomes ever more complex, but the advantages are many.

Traditional CPUs have a single instruction pathway which accepts one instruction, carries out the many steps required to process it, then sends the results to the registers. In a pipelined CPU, there are several stages of processing at which the different steps are carried out, and as soon as an instruction reaches the first stage, another instruction can begin to follow it along the pipeline.

Think of this as a pass-the-parcel game where instead of hanging around waiting for the parcel to come around again, each player can be working hard to pass parcels every minute of the game. The result is vastly increased efficiency and more bang for the buck.

MATHS-INTENSIVE

Compatibility with the 68040 is assured as the new chip uses a very similar bus and has a floating point unit which contains the 040's maths as an instruction subset. For the moment, the maths-intensive packages such as 3D rendering engines will benefit hugely from the basic speed increase, but once they have been optimised to take advantage of the 68060's own maths instructions they should go even faster.

Reports are that maths instructions take anything from between one and 24 clock cycles to complete, and I'd be willing to bet that optimisation will make a big difference, particularly if 68040 code is used as little as possible.

Over two million transistors have been packed into this baby (still fewer than the Pentium's 3.1 million) using a 0.5 micron construction (five millionths of a metre – the smallest size of chip detail on this particular chip) in a three layered piece of silicon. The chip's 3.3 volt operation means that power dissipation can be kept low, but the fan is still required to stop heat build-up.

It might surprise some to find that this is still a 32-bit chip rather than the 64-bit we've been seeing in other areas, and the 50MHz clock speed (there's a 66MHz version as well) is also a little ordinary looking when we've recently been salivating over the 275MHz DEC Alpha.

However, at its current price, which is comparable to buying a new Pentium-equipped motherboard for an existing PC, the Cyberstorm represents good value for money. After all, it's cheaper than the Warp engine and twice as fast. It's also in a machine which multi-tasks with ease, something the PC users of Lightwave are about to discover has very real benefits indeed.

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Making

Ever since computers began spreading their roots into different fields of human activity, one area which has probably enjoyed the benefits more than any other is the music industry. The technological wave which has passed over the industry has left an indelible mark of change, spawning many diverse styles and broadening musical horizons. Many musicians have evolved alongside the insurgence of technology and gained from the wealth and inspiration derived from this source.

Not only has the computer influenced musical style, but it has changed the way musicians create their music. It is now an essential tool in the music industry, as a composition aid and a sound mixing facility. Its uses are numerous, especially since the advent of digital recording and CD technology.

Undoubtedly, the effect of computer influence on the music industry is profound, but even more so, the availability of such technology has opened doors for people who do not find picking up a guitar and strumming chords easy. In effect, the technology has created a new outlet, making its mark on the conventions of music.

Luckily, home computers have been adopted as the tool for musicians – no need for pricey specialised systems. With a few boxes and bits added, an Amiga can bring access to the technology needed for creating professional standard music, and has been used by famous names, including Madonna. Although it would be silly to promise that you will be able to go out and produce the next number one hit after reading this article, it will serve as an introduction to creating music on your computer.

An entry-level set-up for creating music is a standard Amiga, with a memory expansion, a sound sampler, and a decent stereo amplifier. When combined with the appropriate software, this configuration is a cheap, ideal way to learn and gain access to the wealth and power of the Amiga as a music creation tool. Although this combination only makes use of the Amiga's internal sound sample manipulation and playback features, which is limited to four basic tracks, there are many ways of producing professional results with the hardware available.

A popular music program for a set-up such as this is OctaMed. Octamed is derived from the long-running line of Sound Tracker clone software, facilitating comprehensive sample editing functions and music arranging tools.

PURCHASES

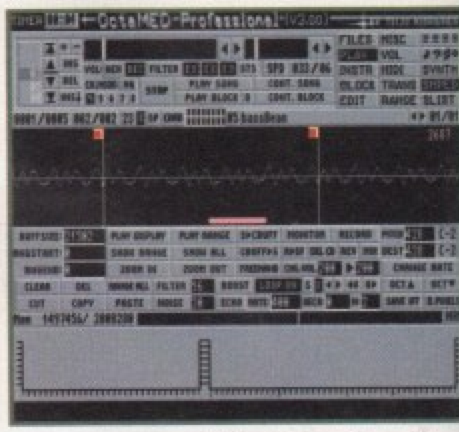
For the more keen musician, a logical step forward is to purchase a Midi interface and keyboard. The advantages are obvious, giving access to a large range of sounds which can be played polyphonically in more channels than the Amiga is capable of. On most modern keyboards, the quality of the sound output is generally higher than an Amiga's sample reproduction capabilities.

Although OctaMed copes with most people's needs for both sample and Midi-based compositions, professionals may go for a more complex music package, such as Music-X or Bars & Pipes Professional. The reason for this is the extended Midi support with the latter packages, plus the increased features for real-time recording.

Perhaps the best way to start composing any piece of music is to first have a tune thought out, before involving any computers. This can be a few notes 'plonked' on a piano or guitar, or whatever you have access to. Whistling a tune will do. Like any art form, work created on impulse often produces the best results; it is difficult to sit in front of a blank piece of paper with a few pencils and think 'what should I draw?'

Armed with a tune in your head and a creative temperament, it is then time to sit in front of your computer and compose! OctaMed and other 'tracker' software utilise the same method of music arrangement – normally there are four tracks displayed on the screen, allowing keyboard input into each. Notes in each track take the form of 'A-2', for example. This means that the note entered into the track is a note 'a' on the second octave.

To enter these notes, the computer keyboard is similarly arranged to a piano



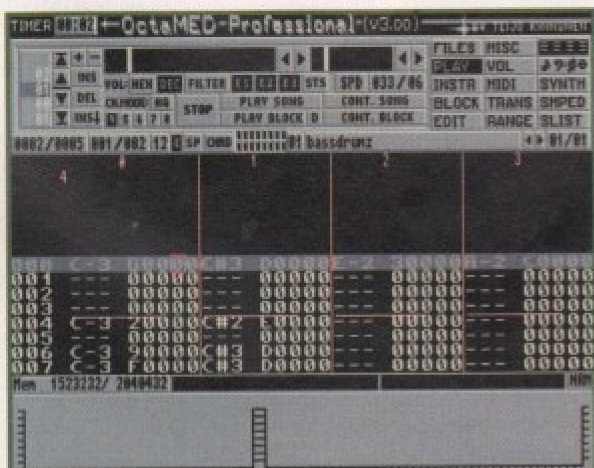
Here you can see the looping markers set in phase, so the transition between each loop cycle is as smooth as possible

Going loopy

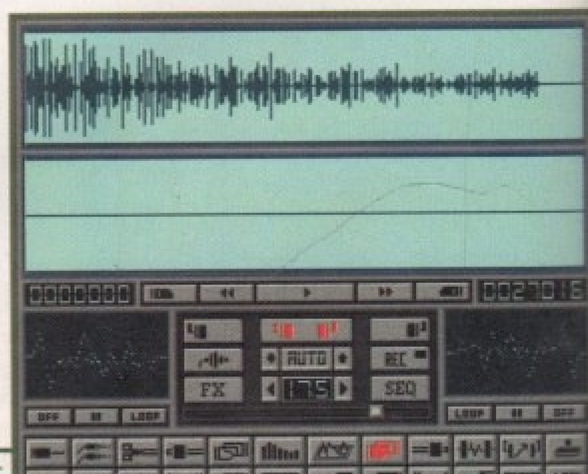
Creating a song on a computer with memory limitations can be difficult, especially when long synth or bass sounds are needed at high sample rates. The usual way of getting round this problem is to create a looping sample, thus giving the impression of a continuous note. Unfortunately, looping a sample can often produce unpleasant clicks and scratches when repeated.

To make the transition between loops a bit smoother, a little fiddling in the sample editor is required. Using the zoom facility, zoom in on where the loop starts and ends. You will notice that on most samples there is a general pattern of troughs and peaks in the waveform display.

To make looping smoother, the markers for the start and end of the loop should occur in the same position of each cycle. Slight adjustments will be needed to get the flow just right, but it will improve looping quality. Note that the sample must be of constant volume for this method to be effective. Also note the position of the loop markers on the looped samples in the demo song on the cover disk.



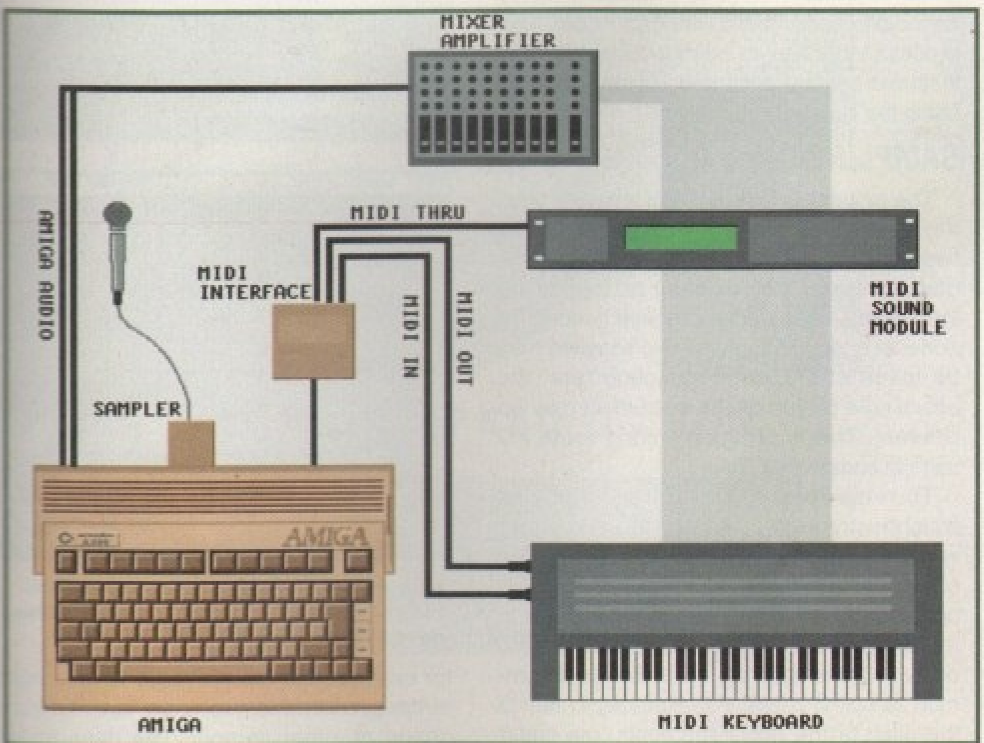
OctaMed version 3 is a very versatile shareware music composing package, offering sound sample, synth and Midi support



Stereo Master is an example of sampling software which comes bundled with a sampler. Most packages offer sound effects facilities as well as waveform editing

sounds

The Amiga is a useful tool for composers and music artists galore. Wilf Rees tunes up and shows how to make you and your computer really perform

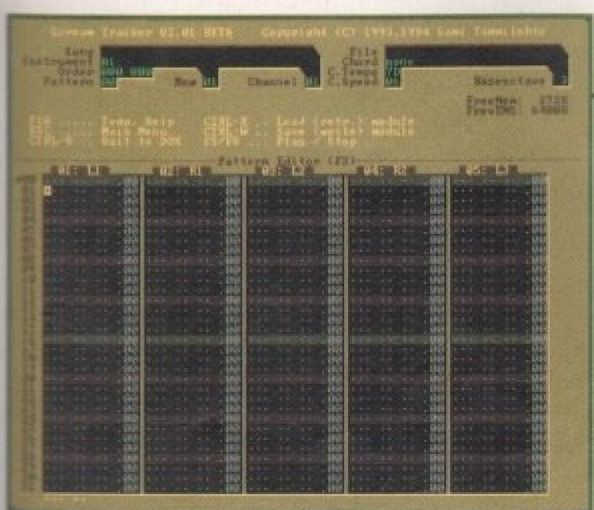


The ideal music set-up for the up and coming musician comprises of a sampler, a Midi interface, a keyboard, an Amiga and a mixer amplifier. In addition, a Midi expander or sound module will make more sounds available

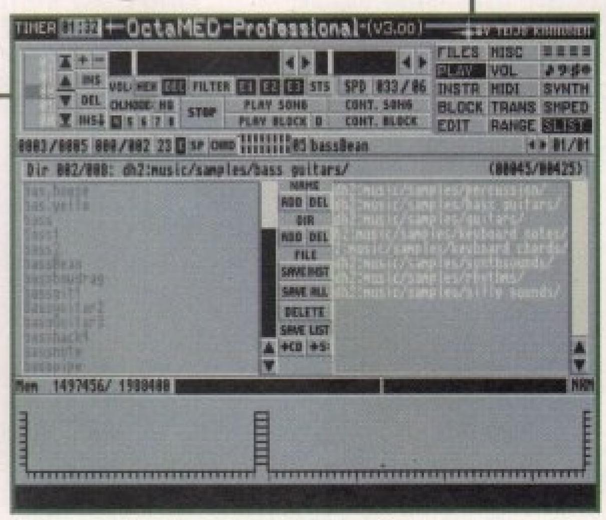
keyboard, split into two rows. The rows starting with 'A' and 'Z' correspond to one octave and the rows starting with 'Q' and '1' to an octave higher. White keys, like those on a piano, are contained in the 'Z' and 'Q' rows and black keys in the other two rows. Each white row begins with the note C, so working out which computer keyboard keys correspond to black notes is quite simple.

Other software packages, such as Music-X and Bars & Pipes, offer advanced facilities for input of musical data through Midi. A process called quantizing will force notes that are played through a keyboard to adhere to the timing of the recording, correcting any badly timed notes.

The method of input differs slightly in this software – musical notes are either entered in standard musical score format or as a sequence of Midi events. The latter is made easy using a graphical method in Music X, which shows note pitch against time, and editing music in this method is simple via a point and click interface. The features offered by both packages are extensive, ➤



The 'Tracker' series of music programs have been so popular on the Amiga that they have found their way to other formats. This is Scream Tracker version 3.01 on a PC



Keeping track of the samples contained on your system is important, especially if you have 25Mb of them on your hard disk!

Touch of reality

Although the Amiga is capable of accurately reproducing samples of acoustic instruments, it is frequently evident in some pieces of music, however good the samples may be, that it was created using a computer.

For perfectionists (or generally all musicians!) this is simply not good enough. Imitating musical instruments involves more than having a carbon-copy sample. There are many variables affecting the sound of an acoustic instrument, such as strike velocity, tone, or even the way a string is plucked.

A technique for copying the feel of a musical instrument will often require two or more samples of the same instrument being played. The advantages of this are two-fold: Realism and expression can be implemented into tunes, giving a sense of an instrument being played by a human artist, and if an instrument is sampled at two different octaves, the dynamic range of sound reproduction can be greatly enhanced.

For example, if a piano is sampled at middle C, playing the sample back two octaves lower can result in a distorted, tinny sound that resembles little of the piano it was taken from. If, however, an additional sample is taken from the note C two octaves lower, the realism on reproduction for lower notes is far better. The same applies if notes from a higher octave are required from an instrument.

Electric guitars have always been difficult to imitate on computers. For a guitar solo to sound convincing in any song, two or three samples of the instrument being plucked in different ways will be needed – perhaps one of the guitar being played open-stringed, another slightly muted, and a third with a stressed harmonic, for a powerful, expressed screech in a song. In parallel, if you are sampling from a drum-kit, a snare sound can be compiled from different areas of the drum skin being hit, with increasing accentuation on snare-rim hits.

and not really the brief of this article.

There are many ways in which the Amiga sample manipulation capabilities can be used to aid song writing, either improving sound quality or overcoming certain hardware restrictions. One of the hardware restrictions of the Amiga which is often criticised is the limitation of only playing four sound samples at once.

There are ways round this. Many music editing software packages, including OctaMed, offer eight-channel sound by using special software routines. Unfortunately, there is a distinct loss in sound quality when doing this. The secret behind playing more than the four samples at once is in optimising the samples available in a song.

Music packages such as OctaMed offer sample mixing facilities. For example, the mixing process can be carried out very effectively with drum tracks. Instead of having a bass drum and hi-hat spread over two tracks, it is possible to mix the bass drum and hi-hat together to a separate sample bank, producing a sample of the two instruments played simultaneously.

Combining all the required samples on a drum track can make the final result much more pleasing, for example, snare and hi-hat, bass drum and crash cymbal, tom and bass drum, etc. – any percussion instruments which would be hit together. Combing other instruments to optimise the use of audio tracks is slightly more tricky. The samples being combined will have to be sampled at the same pitch, or an octave either way.

Commonly, the bass guitar and electric guitar strum are mixed to produce a heavy sound often associated with rock music. This process is similar to pairing-up percussion instruments, and is carried out on OctaMed using the sound sample editor.

SAMPLING

The process is fairly straight forward. Load the bass guitar and the electric guitar into two separate sample banks. If the two samples are taken from different pitches of the instrument, some re-sampling will need to be done. In brief, although the two samples may be taken at the same sampling rate, the actual note played on the instrument may be different. This is common among some PD sample compilation disks.

To re-sample, you will have to choose which instrument is to stay the same and which is to be changed. For simplicity, the electric guitar will be changed. Firstly, find out what pitch the guitar can be played at to match the bass, played at C on the third octave (C-3 is used as this is the most common sampling pitch). For example, to match the pitch of the two instruments, the guitar must be played at F# on the keyboard. The sample must therefore be re-sampled at F#.

This is done through OctaMed's sample editor via the 'Dest' button, which should normally contain the letters 'C-2' (the default sampling rate). By pressing the left mouse button on the letters and depressing the F# key on the keyboard, the pitch can be changed. Simply click on the 'change rate' button and the two samples should be of the same pitch when played on the same key.

The next step in the process is to decide which of the two is the longer sample, as this will become the destination for mixing. Say, for example, the electric guitar is the longer of the two – this is necessary to avoid truncation of either sample. The bass guitar should then be copied into the buffer by selecting the area of the sample with the right mouse button, dragging it over the waveform display and clicking on 'copy'.

Change the current sample to the guitar sample and click at the start of the waveform display to tell the computer where the mixing will begin. Next, click on 'mix'. The waveform display should then be altered and the two samples will be mixed, ready to include in your song. Many of the samples, including drums and basses, are mixed in this way on the demo song included on this month's cover disk.

Chord collection

Putting together a chord on a synthesiser can involve a number of notes being played simultaneously. Playing each separate note of a chord back through OctaMed can consume all four sound channels, making their inclusion in a song very difficult. There are two methods to reduce the number of tracks used.

The first is at the sampling stage. Instead of sampling a single note of a guitar or keyboard, sample a chord, which is to be used in your song. The usual way of doing this is to take a sample of a major and minor chord, as inevitably both will be required.

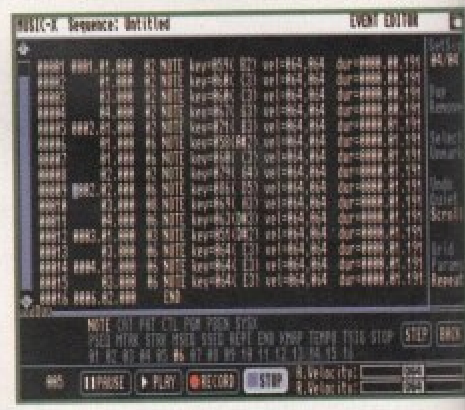
The second and more difficult method requires mixing samples together at altered pitches. This method is used when you would like to make a chord from a single note sample you already have. Using OctaMed's sample editor, the sample must be copied to three sample banks, and two of the samples must be detuned to each component notes of the chord to be played.

For example if a major chord is needed, you may wish to have your sample based at C, and the chord comprising of C, E and G. To do this will require you to change the sampling rate of each note to the desired pitch, using the same method as described in the 'mixing it down' section. Finally, the tuned note must be copied and mixed with the base note, which would be C. The whole process is repeated for a third note, and is mixed in with the other two mixed notes.

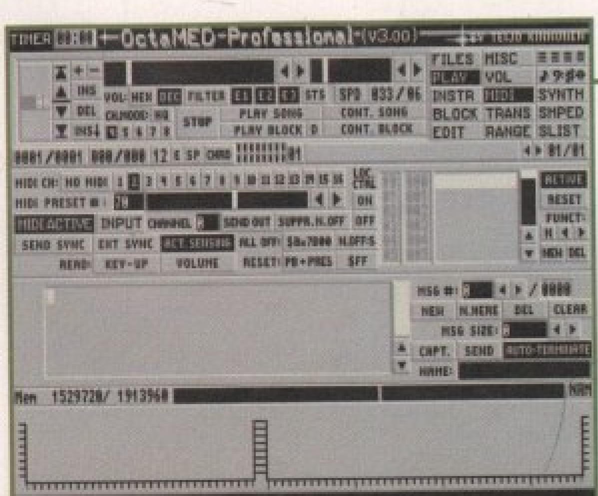
Well, space again is the enemy, but if you haven't created your first masterpiece, and technological trauma has prevented you doing so up to now, at least you can have a go. Remember, the best thing about computers is they forgive, and first attempts might sound a little rough, but keep on jamming!

Stereo effects

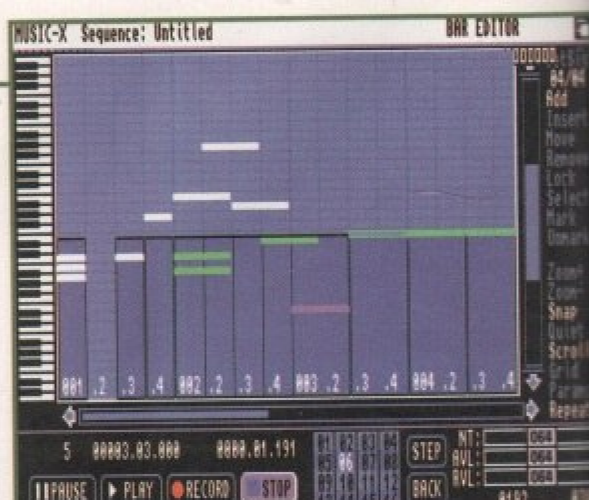
Atmospheric effects in songs can be achieved by creating depth in the stereo sound. A way of doing this is by playing one sample over two sound channels (preferably left and right channels) and de-tuning one of them. This will have an effect of altering the phase of the two notes being played simultaneously. This trick is even more effective when carried out using long, deep synth sounds, and an example of this effect can be heard in the demo song on the cover disk.



Each separate Midi event can be seen here, in Music-X, giving information about the time, duration and pitch of the note etc



Setting up the Midi assignments on OctaMed is a simple process. Select the sample bank, the one to alter, the midi channel to use and Midi preset number



The music editing system used by Music-X is a simple pitch-time graph, showing the volume of each note played as a dark blue bar

LightWave

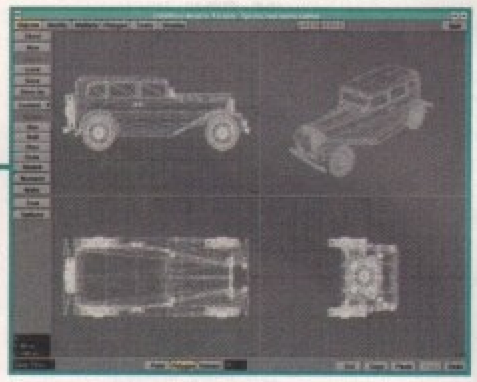
As promised during last month's guide of the LightWave V4 Layout side, I'll be concentrating on Modeller and also exploring the look and feel of LightWave on the Amiga's arch rival.

However, before talking about the opposition's approach, it's time for a brief excursion through an essential side of LightWave which is all too often overlooked in the race to create amazing animation.

Modeller is without doubt the straight-man in the LightWave partnership, but it's easily just as important as its alter-ego if you're attempting any more than simple flying logo anims.

As you can see, Modeller 4.0 isn't exactly a million miles away from its predecessor. In fact, you have to look pretty close before you can spot any real changes. All the buttons and options appear almost identical, but there is one very major, if invisible, update which many a 3D fan has been longing for.

Unlike its predecessors, Modeller 4.0 has at last got a multi-level undo and redo. In the past you were limited to undoing only the last edit. Now you can go way back into the design history of your creations. And thanks to redo, you're completely free to move back and forth through the changes you've made.



The familiar face of Modeller, but now boasting the all-important improvement to undo and the arrival of redo



The PC may be quick, but there are still serious limitations at the system level

Cross-compatibility

As mentioned earlier, NewTek have gone to great lengths to make LightWave on all platforms as identical as possible. There's one thing, though, that even their best efforts can't overcome.

It's true that both scene files and objects will happily load on any platform. Unfortunately, that still doesn't get past the naming limitations on the PC. As you're probably aware, PC file names can only have a maximum of eight digits, plus a three digit suffix, such as Lwobject.lob. Obviously, Amigas don't suffer from such limitations, and of course it's not something that third-party developers have considered in the past.

As a consequence, most third-party products which automatically generate scene files or create objects will not travel well, especially if they employ a numerical suffix to name clones – null objects being a prime example.

The only solution is to manually rename and replace all the objects which don't fit the PC naming criteria. In short, a good old fashioned pain in the backside – not impossible, but certainly not something you'd do if there was a choice, which alas there isn't.

The same problems apply to texture maps which your objects will call when loaded into layout, although if you can live with untidy file names, and the odd bit of re-selection, it is possible to copy files over 'as is' – at which point the PC will automatically concatenate the file names.

The files will still load, but to be honest the ensuing confusion could well make reconstructing the scenes and surface attributes more hassle than simply renaming them prior to the move.

> Although long-term development and plug-ins may point to the PC, I think it will be a long time before the Amiga's existing array of third-party add-ons can be matched on any other platform

In short, the benefits are immense, not least of which is the ability to experiment freely without constantly having to go through the drudgery of saving countless revisions of the same design.

Another simple, but nevertheless important update is the redesign of the preview window. In the past, Modeller boasted a rather flash moving preview option. There's no doubt it looks impressive, but in practice it simply wastes CPU time, served no practical purpose, and most importantly, soon becomes very annoying.

Fortunately, NewTek have finally done the decent thing and added a usable static preview selection to the existing options, thereby providing a much more informative range of display options. In 3.5 the selection varied between none, static, and moving – in either wireframe or solid. Now that collection has expanded with none, wireframe, Frontface and solid.

POINT TO POINT

As you'd expect, the wireframe option works as before, showing both the internal polygon structure and the points. And again like its predecessor, wireframe provides the ability to select both points and polygons directly from the preview window.

Next comes the new Frontface option which shows only the external polygons of the object. But as you can see from the screenshot it also lets you see external surfaces within the object – that at present may be obscured from the existing viewpoint.

Lastly comes the static solid view which works just like Frontface, but delivers a true solid 3D image of the model. It must be said this is slightly slower to update than the others, but in my opinion this is a small price to pay for the added clarity a solid – and stable – true 3D preview can provide.

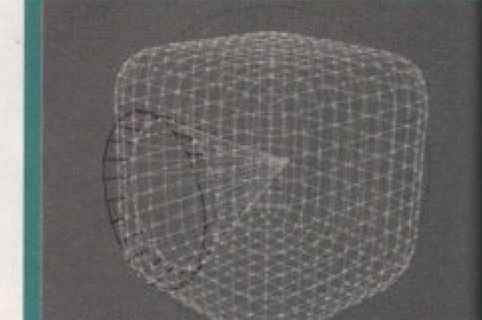
Unfortunately for PC fans, combined moving and static display options are only available to the Amiga version. Because PCs can't multitask, a window in window animated display simply isn't an option – shame...

Like their predecessor, all the display options offer the same orientation control, with wireframe still requiring a combination of the Alt key and mouse movement in order to rotate the object along any axis to generate the optimum view point. The only other obvious change to Modeller is the arrival of a brand new button in the Tools department. Like many of the elements in layout, this isn't, as yet, fully implemented within the beta version on test.

However, it does present the interesting prospect of user and third-party developed tools. In short, the concept of Layout pull-ins ported over to Modeller.

The PC approach

Nobody likes PCs, including the majority of their owners. Nevertheless, the hard facts are that NewTek – like many other Amiga-specific manufacturers – simply can't afford to overlook the biggest user base in the business. Since the news of LightWave planning



revisited

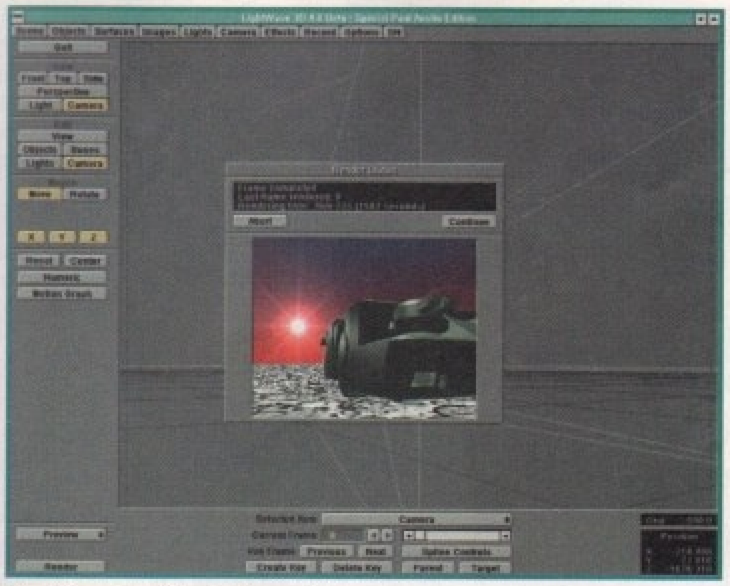
Paul Austin continues his quest to discover the inner secrets of NewTek's multi-platform masterpiece

to cross the great divide, many of the doom and gloom brigade have been predicting that "the end is neigh, and the Amiga is no more." This is very predictable stuff, especially from the so-called experts who look very closely at clock speeds, but never actually try their hand on the machines.

As you can see from the rendering times quoted for the various machines and CPUs, the PC in its various guises can certainly hold its own when it comes to brute rendering speed. However, this is by no means the whole story. For the tests we used a 468 DX2 66MHz fitted with 12Mb of RAM – which roughly speaking is a standard spec for most serious PC enthusiasts. Basic cost £1,900 with a quad CD drive and a quality graphics accelerator.

RENDERING

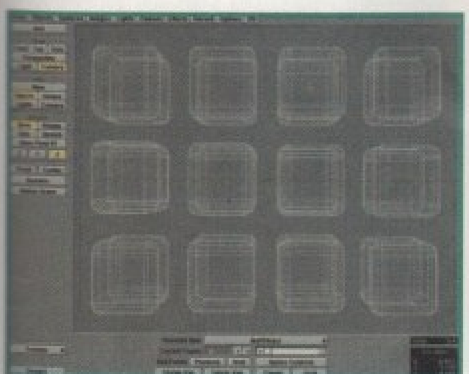
On the plus side, this machine rendered the basic textures example roughly twice as quickly as a standard 25MHz 040-based A4000. However, when a CyberStorm 50Mhz 060 was added to the same A4000, rendering speed quadrupled – therefore rendering twice the speed of the PC – a figure which is still marginally faster than a Pentium P90.



The PC approach to render previews. Acceptable, but not as good as the Amiga's full-screen display

Obviously, this throws the basic PC-goes-faster equation into turmoil. Do you spend £1,900 on the aforementioned PC, or perhaps £2,400 on a Pentium, or simply upgrade your existing A4000 030 or 040 with a £995 Cyberstorm? With the uncertain state of affairs regarding the Amiga, it's tempting to spend the extra cash on a PC. However, life, and especially PC's, are never that simple.

Although long-term development and plug-ins may point towards the PC, I think it will be a long time before the Amiga's existing array of third-party add-ons can be matched on any other platform.



The interface may be familiar, but LightWave on the PC is a serious case of swings and roundabouts

On your marks

The following render times relate to the standard LightWave textures example rendered in full D2 Pal video resolution using low anti-aliasing and adaptive sampling.

A4000 25MHz	17min .50 sec
A4000 060 50MHz	4min .03 sec
486 DX2 66MHz	7min .23 sec

The compromise

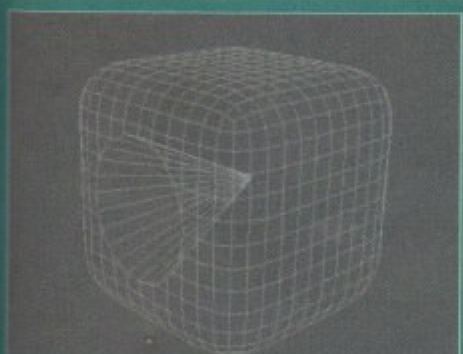
As already mentioned, the PC used for the test was by no means a poor or underpowered machine. However, even with its fairly impressive spec, it nevertheless displayed some serious limitations.

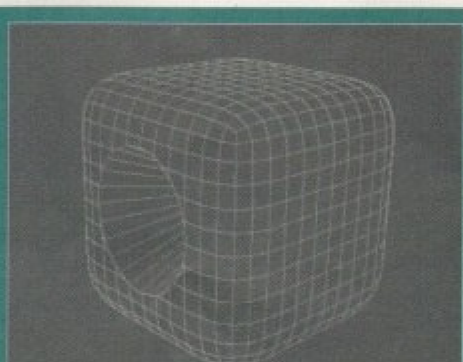
Firstly, the machine was incapable of generating more than about 100 frames of wireframe preview without paging to its hard drive cache. Reserving a set amount of virtual memory space on your hard disk is commonplace for memory-intensive PC applications.

Unfortunately, when the 100-frame limit is reached, paging begins, during both wireframe generation and, more importantly, playback– effectively rendering it useless. But much worse is the affect which paging to disk has on the overall PC system. Unfortunately, PCs are appalling at memory management. As a result, once paging the activated it will continue, regardless of whether real memory has become available since the peak RAM requirement which initiated the paging. Therefore, the machine's overall performance plummets, and unfortunately the only cure is to save out and re-boot the machine.

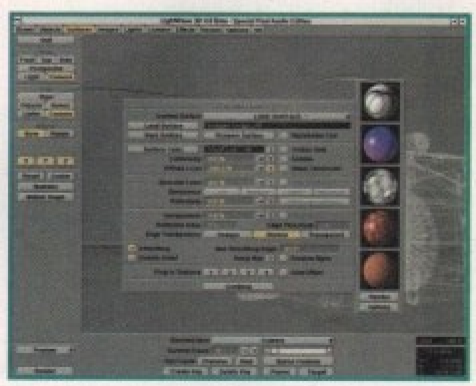
This situation doesn't only apply to LightWave. For example, if you wanted to freeze LightWave and pop into another package, paging can kick-in, and you're straight back in snail mode. In addition, PCs do not support shared resources like the Amigas. For example, a multitude of Amiga programs will happily share the same libraries, whereas each individual program on a PC will open its own duplicates of the same resources – which obviously eats yet more valuable RAM.

Worse still, once opened, many external resources remain resident regardless of ➤





The traditional wire-frame preview, the new Frontface option, and lastly the long-awaited static solid. All in all, a big improvement for the Modeller previews



The new surface preview option in context. You simply adjust your settings, click on render, and a few seconds later up pops a new thumbnail

whether the application that initiated them is still using them or even still active.

In short, memory management is a disaster, and probably accounts for the fact that the recommended set-up for any serious PC LightWave system consists of a Pentium P90 running under Windows NT – the only Windows variant which offers true multitasking – with at least 32Mb of RAM.

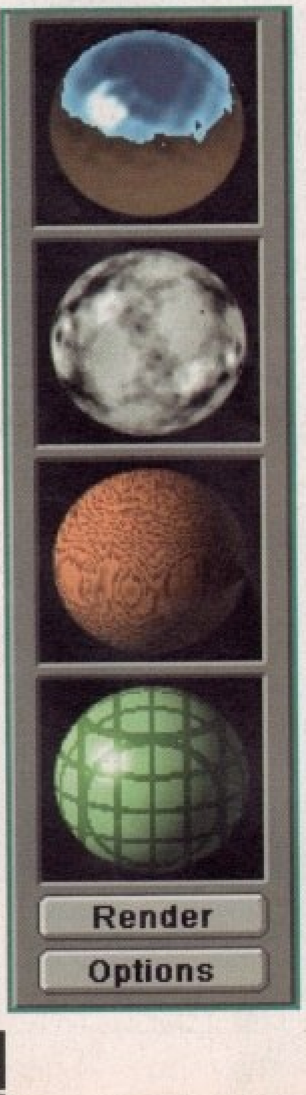
The reason for requiring 32Mb is that Windows NT requires 12Mb of RAM to run, leaving 20Mb free, a figure which should be enough to avoid the dreaded paging problem – ballpark figure £3,500

The question is, after that sort of expenditure, will Mr Average still have sufficient wonga in the bank for essentials like Photoshop 3.0 and all the other goodies that make any PC clone a viable graphics machine?

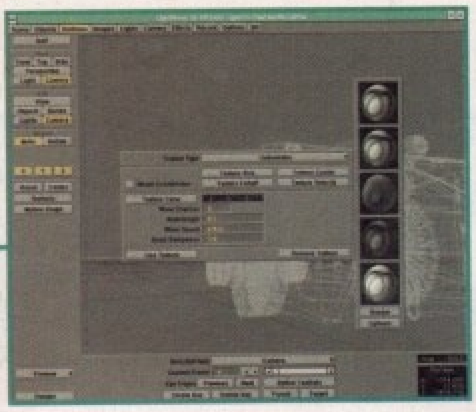
PRE-OCCUPATIONS

Now, before irate PC converts put flaming pen to paper, I must stress this is not a witch hunt. Like almost every other 3D enthusiast, improving rendering speed is a pre-occupation which crosses all borders of platform loyalty.

If I had the money to invest in a 275MHz Dec Alpha, believe me I would, but the fact is I ain't! However, the solution isn't to simply run, cash in hand, to the local PC World and grab the first bargain PC system simply on the strength of its clock speed. In reality, high power rendering on the PC has a high price, just like it does on any other platform. A PC, more than any other machine, is quite literally the sum of its parts. If an element of the equation is missing you could easily end up



The one thing that as yet isn't available to the Amiga. And it must be said it's a real point scorer for the PC



A similar approach to the surface previews, but this time applied to individual textures

> With the price and performance offered by Cyberstorm - as an add-on to an existing system - the Amiga still looks in a strong position as the heart of the best desktop rendering system money can buy

with a very expensive system that simply won't do what you need.

As you can see from the screenshots, LightWave has well and truly arrived on the PC, although at first glance you could easily mistake the PC variant for the Amiga original.

In both Layout and Modeller there's very few alterations between the two. This is particularly handy for Amiga fans looking to add a PC rendering engine to their existing collection of kit. Even ARexx, or should I say Rexx, has been included. Consequently, there shouldn't be a problem using the majority of those all-important Modeller macros. However, it remains to be seen if all the available macros will be ready for the initial launch of 4.0.

All the hotkeys and shortcuts remain the same in both versions and as you can see, everything on the interface is exactly where it should be. It looks like NewTek have kept their promise of cross-compatibility. The only real difference on an operational level is the inability to import and export models between Modeller and Layout. As mentioned, the vast majority of PCs don't truly multitask, therefore it's not an option.

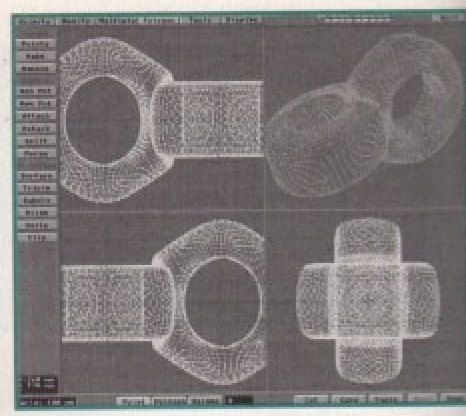
This will mean an awful lot of saving, quitting and reloading when making adjustments to the design and surface properties of your creations. However, given sufficient RAM, it is possible to load both Layout and Modeller, make your changes in one, save them out to disk, hop over to the other program and load in the saved changes – but this will freeze the first application and of course eat valuable RAM.

COMPARISONS

On the plus side, it must be said that actual screen update on the PC version is far superior – given a decent 64-bit graphics card. When compared to the implementation of the higher resolution displays of the Picasso II, favoured on the Amiga version, the PC wins hands down.

Aside from the resolution, the PC variant also offers a different approach to render previews. Unlike the Amiga, which uses multitasking to provide a full frame preview in either Ham, Ham8, or Picasso II, the PC opts for a small quarter-screen display within a pop-up requester.

In this department the Amiga definitely hits back. Although useful as a rough guide, a quarter-screen display in 256 or above – depending on your graphics card and Windows set-up – simply isn't as good as a full screen Ham8 or 24-bit Picasso. Not to be outdone, the PC fights back with a feature which as yet hasn't appeared on the Amiga



Although the Picasso's layout display still needs attention, the new static preview in Modeller breaths new life into a rock solid 800x600 Picasso screen

version, and in fact may not appear in this particular Amiga version.

One of the most time-consuming elements of 3D design is achieving the required surfaces on your objects. On the Amiga version this remains a matter of guess work and experience. However, the PC version does offer the unique option to render a preview of the texture you've created onto a sphere which pops up alongside the surfaces panel and the individual texture panels when selected.

Unfortunately, there's only an option to do a spherical preview, unlike 3D Studio which offers a variety, including cube – however the ability to see a basic 'work in progress' when designing a surface is a real bonus which the Amiga version sadly lacks at present.

There is still hope, though, as all versions are still at the BETA stage – a point proven by the lack of one or two features in the PC variant which are planned, and indeed active, in the Amiga version.

All in all

As you've probably gathered, Modeller, although much improved, hasn't had the large-scale overhaul that Layout has enjoyed. But to be fair, with the preview problems resolved and multiple undo now active there's little else that needs urgent attention.

As for the PC invasion, I'd say it's still very early days. With the lack of any direct third-party support, and the hardware and software limitations inherent to the PC, it's really a case of spending an awful lot of money or none at all.

With the price and performance offered by Cyberstorm – as an add-on to an existing system – the Amiga still looks in a strong position as the heart of the best desktop rendering system money can buy.

If money is no object and you're totally addicted to 3D, my advice would be to skip the PC entirely and invest in a Dec Alpha. But whatever you decide, it's very wise to look long and hard at the specific hardware you'll need, and the existing software you might need to replace.



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Compact

The quantity of CDs coming out seems to increase dramatically every month, so *Amiga Computing* is back to check out the latest releases. As usual there's something for everyone, and the emphasis is definitely on good value.

It's heartening to see how the quality of the compilations has improved since we started focusing on these products last year. Companies like Almathera are having to expand to deal with the growing demand for these CDs, which just goes to show there's still a huge market for new Amiga releases provided they're of a suitably high standard.

3D Arena

Almathera have already impressed us in the field of CD-ROM with the DTV disc reviewed a few months ago. This time they have returned with a 3D object collection aimed at Imagine and Real-3D users as well as Lightwave.

What will interest Lightwave users in particular, however, is the inclusion of the Lightwave Collection from the 24-bit Club Scotland – an exclusive feature for this disk.

A number of animations from 24-bit have been included, though it's disappointing there aren't a few more and that they don't last for more than a couple of seconds. All the same, they're pretty good, especially in the case of the Pinochio animation.

The 24-bit collection isn't that large – I counted 17 images in all – but their quality is better than that usually found in the PD collections. There's also a voucher included which can give buyers a saving of £10 off a 24-bit Collection book.



Hints and Tips from the club have been included on how to create certain effects in Lightwave. For example, there's information on how to produce high pressure mist, smoke effects, bevelling and underwater effects. Admittedly, this amounts to only a few pages at present, but if more is included in later updates, 3D Arena could become an excellent learning tool.

This CD is not just for Lightwave owners, however. There are ready-to-run objects for Imagine and Real-3D among others, though unfortunately the 24-bit collection is Lightwave only.

Filler material includes some animations for Retina and Opal Vision cards and a selection of rendered textures in various formats. With a large quantity of PD objects converted across all the formats, this CD manages to distinguish itself above the average and is consequently well worth a look.

The bottom line

Product: 3D Arena
Price: £19.99
Supplier: Almathera
Tel: 0181-687 0040

Ease of use	**8**
Implementation	**8**
Value for money	**8**
Overall	**8**

The Light Works

If our letter pages are to be believed, some of our Amiga 3D modellers have been unhappy at the apparent bias towards Lightwave products as opposed to software for tools like Imagine. Unfortunately, this state of affairs reflects the way in which Lightwave is often being targeted in preference to other packages by the developers themselves.

It's good, therefore, to get a CD packed with visual goodies for Imagine, Maxon Cinema 4D and Reflections. It's even better that a lot of these images are of an extremely high quality.

Even more so than usual, the theme of Light Works is almost exclusively sci-fi, so buyers should expect to find spaceships and futuristic submarines in abundance. It's perhaps a shame there's not even the usu choice of cars, choppers and planes, but i techno-fantasy is your thing this produc ought to be considered.

The best models and scenes included o the disk are the work of Tobias Richter, man who's made quite a name for himself i the world of computer animation.

VIEWING SOFTWARE

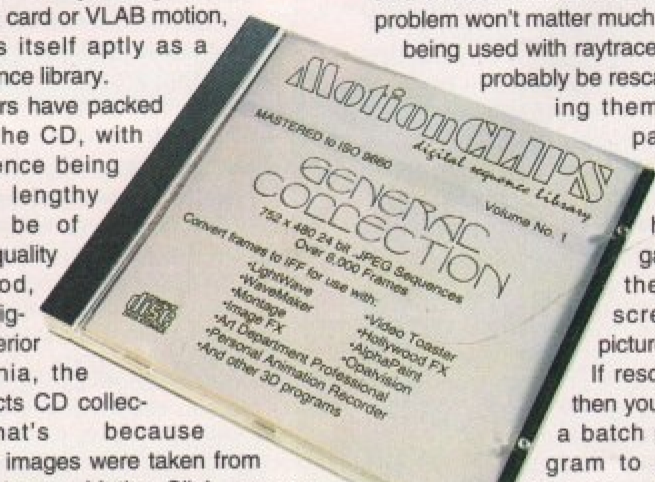
Fans of Star Wars are well catered fo with tie-fighters, tie-bombers and most of th other spaceships and spacestations fea tured in that trilogy. However, there are als objects based on DSV and Star Trek, alon with a range of more original designs.

Most can be seen directly fro Workbench, which is good for those wh don't own a package like AD PRO, thanks t the inclusion of some viewing software Unfortunately, it has to be said that attempt ing to run some of the animations cause

Motion Clips

This is rather an unusual CD produced by Accadia in America. Aimed at people who want to incorporate video sequences in their presentations or raytracing, but who can't afford a PAR card or VLAB motion, it describes itself aptly as a digital sequence library.

The makers have packed a lot onto the CD, with each sequence being more than lengthy enough to be of use. Image quality is quite good, though it's significantly inferior to Pyromania, the special effects CD collection. That's because Pyromania's images were taken from film stock, whereas Motion Clip's appears to be pulled from high quality video.



Accessibility and ease of use has been increased thanks to the inclusion of thumbnail previews – these allow you to get an instant overview of what happens in eac sequence with the minimum of fuss.

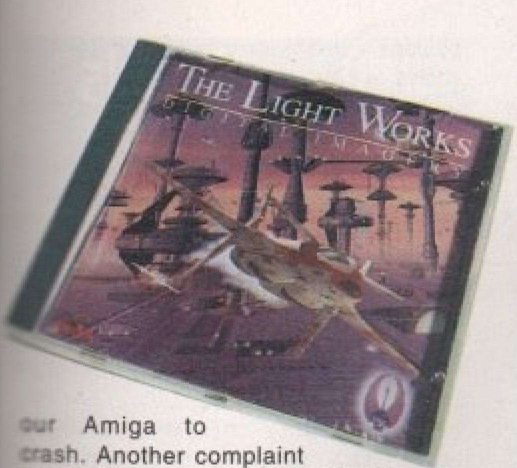
The images are in video resolution bu unfortunately they were set for use wit NTSC. This means that for PAL they'll need scaling up, which will lead to a slight (thoug not too noticeable) degradation in qualit and a distortion of the aspect ratio. This problem won't matter much if the images are being used with raytracers because you'l probably be rescaling and deform ing them anyway. With packages like Deluxe Pain and Brilliance however, a blac gap will appear a the bottom of the screen unless the picture is rescaled.

If rescaling is require then you're going to nee a batch processing pro gram to convert all the images – ProControl wi do the trick. Alternatively, you have Image FX you coul use IMP or if you're lucky enoug to have ImageFX2 then AutoFX is in man

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our Amiga to crash. Another complaint arises once again from the fact that this is a German product that has been rushed onto the British market.

Consequently, the demo of Maxon Cinema 4D is in German making it unusable for the majority of buyers. Surely an English translation isn't too much to ask for. Otherwise, this is another quality CD for the 3D modeller which includes not only a large range of impressive work but also has been compiled in an organised and helpful fashion. Imagine users should check it out as soon as possible.

The bottom line

Product: The LightWorks
Price: £39.99
Supplier: PDSoft
Tel: 01702 466933

Ease of use	**9**
Implementation	**7**
Value for money	**8**
Overall	**8**

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With access to CD becoming ever cheaper for the Amiga user, the demand for digital collections is always on the increase. Gareth Lofthouse returns once again to assess the scene

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ways superior even to ProControl.

Sequences are often about 600 frames long, so potential buyers should remember if they want to convert 24-bit images onto their hard drive they'll need a hefty amount of space. Saving them as IFFs, furthermore, will increase these memory demands if you want to retain full resolution.

Generally, the most useful inclusions on the CD are sequences featuring choppy water or rolling clouds, which always come in handy for raytracers or those using presentation software like Scala. Strange effects like moving textures on your objects could be produced using the psychedelic sequences, while the underwater marine fish scenes might make for interesting backdrops.

AVAILABLE BACKGROUNDS

The CD claims that images could be used individually as backgrounds for your favourite paint or character generator program. That's true, but it's not worth buying the CD for this purpose since there are tons of PD backgrounds available.

As should be expected these days, a viewer has been thrown in for free – in this case it's Fast Jpeg. The makers claim it's the fastest freely available Jpeg picture viewer for the Amiga, and it retains a high degree of quality. It also has a special AGA version included for Ham8 mode.

Overall then, it could be a useful product but unfortunately I can't help feeling it's over-priced for what you get. It may mean you don't have to fork out for a PAR card, but those who want to make the most of the CD will have to own some expensive equipment or software anyway. Consequently I recommend potential buyers think carefully before they part with their cash.

➤

The bottom line

Product: Motion Clips
Price: $149.95
Supplier: MicroWorks
Tel: 0101 716 873 1856

Ease of use	**8**
Implementation	**7**
Value for money	**5**
Overall	**6**

ClipArt GIF



An Aztec design, one of the more unusual items on the CD

Whether you're creating documents on your Amiga for business or a newsletter for the Parish church, including a few appropriately-themed pictures can add a touch of professionalism. There's plenty of clipart available from PD distributors, but if you want a good range that's easily accessible you should buy it on CD.

The ClipArt GIF collection from WPD features high-quality scanned images with 256 colours. It covers the usual subjects, including high performance super cars, military aircraft, exotic locations and, of course, 'scantily clad' babes.

FANTASY IMAGES

There's also the typically huge collection of space and fantasy images, while in the art directory there's a large number of paintings by Boris Vallejo and Pat Nagel. How useful this type of thing is for most DTP purposes is unclear, though, and it should be remembered that a high-quality colour printer will be required if they are to be used effectively in documents.

These disks are for use on the PC as well, which has led to unfortunate limitations on the length of each file name. Because the PC won't read file names over eight characters it's not always clear what some of the entries on the CD are.

Otherwise, it's another competent though unexceptional collection of images, and with a whole bundle of Amiga viewers thrown in for good measure it should prove of interest to some.

The bottom line

Product: ClipArt GIF
Price: £19.99
Supplier: PD Soft
Tel: 01702 466933

Ease of use	**8**
Implementation	**7**
Value for money	**7**
Overall	**7**

ClipArt IFF

Admittedly less detailed and colourful, the images on the CD will probably prove a lot more useful for most Amiga owners than the GIF collection. This is because there are twice as many images covering a much broader field of interests.

The user who wishes to produce a bulletin for their company, for example, will find a large business directory with various black and white images of meetings, telephone conversations and the like.

Ornate alphabets, borders and frames are the nuts and bolts of DTP that can really enhance your finished product, and fortunately this CD has plenty on offer in this line.

Other subjects include money, education, family, computers, Christmas and natural world material. Since subjects are well organised into their own specific drawers, finding the images you may need is not a particularly time-consuming process either. Overall, it's a product that most people could find good use for, and some will find invaluable.

The bottom line

Product: ClipArt IFF
Price: £19.99
Supplier: PD Soft
Tel: 01702 466933

Ease of use	**8**
Implementation	**8**
Value for money	**9**
Overall	**8**

Aminet 5



The new Aminet package comes on a single CD, but those obsessed with quantity need have no fears – most of the files have been compressed so that once again this is a product with over 1 gigabyte of information.

Accessing the files is very easy, since clicking on file buttons in the AmigaGuide will automatically unpack it. However, the fact that you have to decrunch files means they're not as instantly accessible as on Fred Fish 8.

On the other hand, Aminet CDs have always been some of the easiest to use in my view. Guides and content pages give an excellent overview of the CD and help to point you towards the most interesting material. Furthermore, keywords can be pressed to call up linked information – it's all vastly more user friendly than the majority of collections available a year ago.

There's 214Mb of new files stuffed onto the disc and the range of interests covered is about as wide as you can get within the field of computing.

In the graphics department there's the latest version of XV, an image viewer and manipulator that uses the Magical User Interface (MUI).

Capable of using all the usual image formats plus a lot of ones I was unfamiliar with, this update also includes a lot of new tools such as the ability to cut and paste.

Programmers may be interested in Barfly, an assembler development system which is supplied with a very powerful debugger. There's also Gold Ed, a fully-featured shareware text editor as an alternative to the demo of Turbotext, supplied.

That's just the beginning of what's available, but the key attraction of the Aminet package is that the buyer will be able to find material to interest them without spending days searching through file after file. Highly recommended.



Black and white clip art covers a whole range of subjects, including business

The bottom line

Product: Aminet 5
Price: £14.99
Supplier: PD Soft
Tel: 01702 466933

Ease of use	**9**
Implementation	**8**
Value for money	**9**
Overall	**9**

LSD Legal Tools Deluxe 2

This is another general compilation, but one that to its credit strives to be different. Seeing the trend for the repetition of the same files on different CDs, the makers of the LSD have tried to ensure that as much material as possible on this product is unavailable elsewhere.

It's another easy-to-use CD that utilises the AmigaGuide well, and efforts have been made to make files instantly accessible. Where possible, for example, images are in IFF format so they can be immediately loaded into and viewed in Deluxe Paint or Brilliance.

The same is true of the animations. Utilities include Comic Master, a database for comic book collectors, Invoicer, a program for creating and printing invoices, and Route planner, which can plan optimum routes based on map databases.

On the comms side there's AmiTALK, a

> With a collection of good 2D art on offer, LSD 2 is the sort of CD that's enjoyable to browse through. What's more, there's a range of games... making this one of the better choices for those who want to combine the serious side with some leisure

Fred Fish Vol 8

As if they weren't big enough before, many new CD PD collections seem to be expanding to cover two discs. Following this trend, the compilers of the famous Fred Fish collections have doubled up to bring us over 1Gb of data.

As always, it's an odds and sods collection with material ranging from techy programming tools to the latest PD games. Good categorisation is therefore vital, so it's to the compiler's credit that there are two ways of finding the files you want.

Firstly, there's A-Kwik which performs keyword searches from a database built from the included product information files. Secondly, there's a new version of Kingfisher, one of the most user-friendly ways of getting a summary of what each program's about.

Huge though this collection clearly is, it should be pointed out that only 115Mbs of it is new material. Of course, that still adds up to a large stack of programs, but it does compare badly with Aminet 5 which contains almost double the amount of fresh stuff.



LSD features pictures of some of the best 3D renderings we've seen, with a clock by Steve Anger that's so photo-realistic it's incredible. A collection of pictures from the Zen Room, by contrast, are much more abstract but equally impressive.

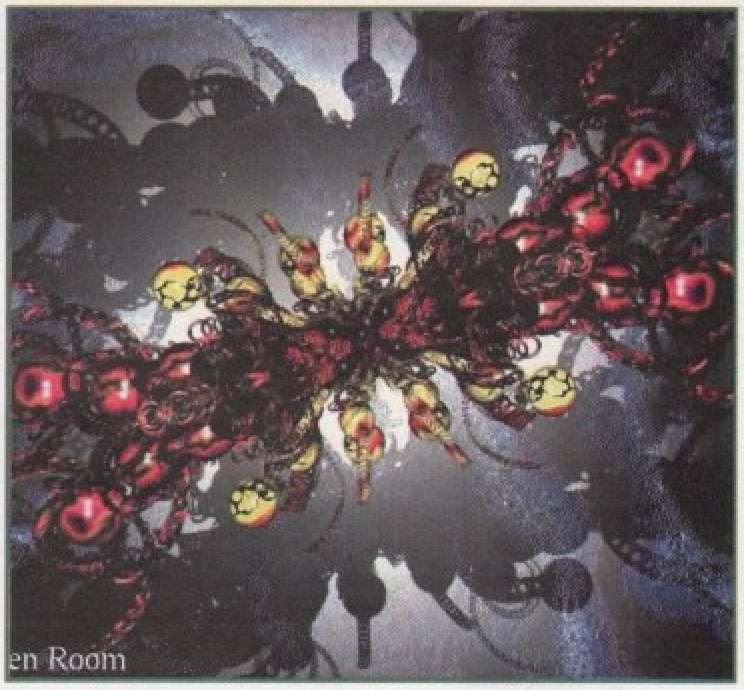
With a collection of good 2D art on offer as well, this is the sort of CD that's enjoyable to browse through. What's more, there's a range of games from the Assassin collection making this one of the better choices for those who want to combine the serious side of CD with some leisure.

Hard though it may be to believe, the 660Mb of data offered on LSD 2 is less than on many other new compilations. In my mind this is actually to the CD's benefit, especially since I'm all for the policy of cutting down on program duplication. This makes this disc worth a look even if you've got a number of other compilations.

program which allows Amiga users to talk to any person using a UNIX compatible talk program. AmiWATCH, on the other hand, is a log that keeps track of when your friends (or enemies) are logged on their accounts on the net.

DEGRADING

Some of the files require owners of AGA machines to degrade their Amigas in order to use the programs. It's a sign of good implementation, however, that there's an on-line degrader accessed by clicking a button on the AmigaGuide, thus keeping things fairly simple. Perhaps surprisingly,



LSD 2 features some great 3D pics, including some work by the bizarre Zen Room

The bottom line

Product: LSD Legal Tools 2
Price: £19.99
Supplier: 17th Bit
Tel: 01924 366982

Ease of use	**8**
Implementation	**9**
Value for money	**8**
Overall	**8**



Some of it is more of the same, including an unnecessary number of new database programs. A good quantity of BBS utilities, on the other hand, is bound to raise some interest in these on-line obsessed times.

Included in this section is a demo of 4D BBS, a flexible program that allows callers to call their computer, read/write mail and upload/download files. THOR, on the other hand, is a potential money saver that allows users to read messages offline, thereby cutting down on on-line time.

There are various programming tools, including Triton 1.2. This program makes it easy to create good looking graphical user interfaces (GUIs) and features an object-oriented system and greater ease of use than its competitors.

USEFUL UPDATES

Music players like YADCP allow you to play audio CDs with your CD-ROM drive, while the graphics side of the disks is blessed with some recent and useful updates. Image Studio, for example, is written for the casual user who wishes to convert several graphical formats.

More powerful commercial offerings are obviously available, but for some users they represent an unnecessary expense for facilities that may not be required.

Obviously, a review of this length can only glance across the surface of such a vast collection. However, if you're in the market for this type of collection you could do a lot worse thanks to Fish8's excellent ease of use and organisation.

The bottom line

Product: Fred Fish Vol 8
Price: £24.99
Supplier: PD Soft
Tel: 01702 466933

Ease of use	**8**
Implementation	**8**
Value for money	**7**
Overall	**7**

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BUSINESS CARD MAKER - can Print in color
DATA BASE WORKSHOP (2) brilliant PACK
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QUICK BASE Very powerful Database. Easy to use
RIM DATABASE powerful database + full DOC
AMIBASE - Professional II The best database yet
TEXTRA Can edit serval document at once
FLEXI BASE Small easy to operate database.
PENNY WISE Very powerful database.
VIRICALC Great database lots of fuctions
TEXT ENGINE V3.4 - full feature wordprocessor
LITTLE OFFICE - database/wordprocessor/spreadsheet
HOME BUSSINESS JOURNAL - Easy to use database
BON APPETIT DATABASE many receipt.
HOME ACCOUNT-Account program
AMICASH regarded as the best account prog. Excellent
JOURNAL full feature account program
LORAN NOTE BOOK, database & word map.
DATA BASE compilation - best seller to date
MORTAGE CALC calculate mortage repayment rate etc
MONEY PROGRAM very good account program
ACCOUNT MASTER V2.8 new account program
HOUSE INVENTORY - ideal for home insurance
ADDRESS PRINT V2.1 Store & print addresses
TEXT-PLUS V 4.0 pro requires HD & 2meg
TEXT ENGINES V4.1 latest 36,0000 word spellchecker.
INVENTORY 2 details of home contents, for insurance
EDWORD PROFESSIONAL truly the best wordprocessor
EASYCAL + massive spreadsheet max 92580 cells
PAY ADVICE ANALAZER - money prog.
ADDRESS PRINTING print addresses on labels
PAY ADVICE V3. account program
LABLE MAKER-Print labels etc. New
THE MONEY PROGRAM - Accounts
LOANS ACCOUNT
UNIFORM One of the best invoice makers
ACCOUNT MASTER v2.2 (latest) programs up to 1000 entries per account

AGA A1200/A4000

NOTE This AGA listing is for the A1200/A4000 only.

AGA001 EXTENSION DEMO Stunning demo with fast landscape anim and a rotating city, still regarded as the best AGA demo
AGA002 FRACTAL GENERATOR stunning fractal in 256 colours
AGA003 WORKBENCH HACK many hack/toy/blanker ect
AGA006 NEW SUPER KILLER know & kill over 316 types of virus, must for all A1200 owner
AGA007 MINDWARP one of the very first demos for the A1200
AGA008 KLONDIKE DELUXE AGA (3D) Simply the best A1200card games with glamourous ladies as card faces 18 + only
AGA011 SLEEPLESS NIGHTS 3
AGA012 PLANET GROOVE Truly A1200 Demos
AGA013 MOTOR INVADER 2 (2D) Very playable INVADER clone set inside your computer. Loads of fun
AGA015 POINT OF SCALE Great A1200 only demos
AGA016 CHROMAS. Fairly good demo.
AGA017 WORLD OF MANGA AGA (4DISK) magnificent Japanese comic slide show includes Japanes Chick etc recommended. Still the best seller on the A1200—brilliant
AGA021 MAGIC WORKBENCH improve the look of your WB& add some function to your WB really BRILLIANT
AGA022 WB 3 UTILITIES loads of WB 3 only utilities like degrader etc. Not for beginner
AGA023 U-CHESS the best chess program games so far but requires 4 megbytes. Brilliant graphics
AGA024 WORKBENCH 3 SCREEN Great backdrop for A1200 (not beginner) GIF BEAUTIES is one of the highest quality... Pictures available (1-18)
AGA41 GIF BEAUTIES (1-18) pictures of raunchy women who don't seem tobe wearing many clothes
AGA62 BODYSHOP 1 More of above
AGA64 BODYSHOP 2 (2D) More of above
AGA66 BODYSHOP 3 More of above
AGA68 BODYSHOP 4 (2D) More of above
AGA70 BODYSHOP 5 (2D) More of above
AGA72 BODYSHOP 6 (2D) More of above
AGA74 BODYSHOP 7 (2D) More of above
AGA80 FITCHICK 1 See BODY SHOP for description
AGA82 FITCHICK 2 (2D) See AGA41 for description
AGA84 FITCHICK 3 (2D) See AGA41 for description
AGA90 ASSASIN A1200 FIX DISK 1-Brilliant collection of degrader that should get most of the old A500 games/software to run on the A1200. A must for anyA500 owner just upgrade to an A1200 - RECOMMENDED
AGA091 ASSASSIN A1200 FIX DISK 2 (new) like above but with new collection (different) degrader - recommended you buy both disks - super
AGA094 RELOCKIT V1.4 latest. Run A500 SOFTWARE
AGA097 A1200 UTIL - AGA TESTER, SYSINFO etc
AGA098 ACTION REPLAY V4 Complete ACTION REPLAY on disk
AGA099 MADFIGHTER 2 brilliant street fighter clone
AGA100 AGA BLITZ SCREEN BLANKER
AGA101 FAST GIFF 2 display GIFF pics in Workbench.
AGA102 AGA DIAGNOSTIC - NEW system tester
AGA103 BLACK BOARD AGA decent Image processor
AGA104 REND 24 Similar to above
AGA105 QUICK GRAB AGA - can grab AGA screens
AGA110 WORLD BEYONDS 1 (3) stunning 256 COLOUR fantasy art. Leaves Atari users breathless
AGA114 SMELL LIKE CHANEL NO5 Brilliant demo raytrace pictures ever released on the A1200
AGA121 MAGIC FACTORY 1 STAR TREK (5 disks)
AGA133 AGA UTIL v1 AGA util compilation
AGA134 AGA UTIL v2 more AGA util compilation
AGA135 AGA UTIL V3 more of above
AGA136 AGA UTIL V4 even more of above
AGA137 IMAGE PROCESSOR IFF picture processor.
AGA138 MULTIBOOT- 4 various versions A500 EMU
AGA139 WB3 HARD DISK PREF & INSTALLER Installing WB 3 /pref/etc on the hard disk
AGA140 CROSS DOS PLUS v5.1 read/write PC files
AGA141 FARRARI ART 2 (2D)- load of Ferrari & ray trace
AGA142 SUPER LEAGUE 3 - latest manager games
AGA144 SPEAK & SPELL - educational software for kids
AGA145 BIG TOPS (18 + only) Hmmm
AGA146 KELOG LAND - brilliant platform games - get - a must
AGA150 ACTION REPLAY V5 - NEW UPDATE TO V4
AGA160 GIGER TRIZ very playable 256 colour tetris
AGA162 FATAL-BLOW new STREET-FIGHTER 2 clone
AGA164 CINDY CRAWFORD Vol 1 (2 disk) latest release
AGA166 INFESTATION (3 disk) The ultimated AGA demo
AGA170 CINDY CRAWFORD Vol II (2 disks) amazing
AGA172 VIDEO TRACKER AGA - ultimate demo maker
AGA174 MAGIC WB EXTRA vol 1 & 2 (2 disks)
AGA180 GIF BEAUTIES Vol (11-18) 8 more girl disks
AGA189 FRIDAY AT 8 other brilliant AGA demos
AGA190 ASSASIN MULTIVISION AGA pic viewing util
AGA192 ALIEN FRENZE 2 player blasting + power up
AGA194 BIG TIME SENSUAL (3 disk) SPACE BALL 2
AGA200 MASQUERADE 2 disk brilliant puzzle games.
AGA202 RAM JAM 94 it can be done (2 disk)
AGA203 EXPLIXIT 2 DEMO new effect well done.
AGA204 COMPLEX ORIGIN 2 disk requires 2 disk drives
AGA206 TREASURE OF TUTANKHAMUN-education tool
AGA210 CHANEL Z DISK MAG (2D) A1200 disk magazines
AGA220 KLONDIKE NEW CARD SET (7disks)
AGA230 LOVE 2 disk - simply brilliant
AGA231 AGA UTIL 7 & 8 (2 disks) more util
AGA234 KNOTTY Stunning AGA sliding picture puzzles
AGA240 LOTTERY WINNER hopefully will improve your chances of winning a jackpot. GOOD LUCK
AGA241-258 AGA GAME-GALORE AGA 01-18 We stock the entire collection of the AGA GAME GALORE each disk pack with quality AGA compatible games. RECOMMENDED
AGA251 PACKMAN AGA - the best pacman yet
AGA252 ROCKET PD - Super thrust clone brilliant graphics for 1 or 2 player
AGA253 REAL DEMO stunning special effects
AGA254 DIRT AGA Brilliant 256 colour effects
AGA255 DELIGHT EXPLORE excellent demos
AGA256 KEFEREN AGA Demo lots of effect
AGA257 MINDMIST RAVE great rave music
AGA258 OXYGENE Fantastic demos
AGA259 INTELOUT another very good demo
AGA260 SOME JUSTIC 94 Demo of the month, brilliant whirl effect. RECOMMEND
AGA262 TO THE DEATH very good STREET FIGHTER clone with very good graphic.
AGA263 GEORGE GALAXO (2 disks) brilliant multi-level shoot/platform game. RECOMMENDED
AGA265 MISSILE OVER ZENON (2 disks) Brilliant 3D missile commander with fantastic graphics
AGA266 TEAM HOI DINO PLATFORM excellent dino platform. Note: this disk was a commercial game.
AGA268 TEAM HOI SAGA. The Final chapter (3 disks). The ultimate in demo, comes on 3 disks
AGA269 RAYWORLD (3 disks) very impressive
AGA270 CREAM DEMO - lot of 256 Vector effects
AGA273 EMPTY HEAD lots of vector/ ray trace
AGA274 MUSIC 2 SURVIVE 2 disks 8 excellent music master pieces. Well worth getting
AGA271 RAVE MAXIMUM OVERDRIVE II (2 disks)
AGA278 CHANNEL Z ISSUE 1 (AGA) (2 disks) AGA base disk magazines. RECOMMENDED
AGA279 AGA Utilities including Cache X, Superduper V3, New Menu 2 etc. RECOMMENDED
AGA280 CHANNEL Z Issue 3 (2 disks) AGA disk magazine - get the most out of Dpaint
AGA282 CHANNEL Z Issue 5 (2 disks) AGA disk magazine topic Demo/music
AGA285 WORKBENCH BACKDROP VOL (5) Stunning AGA backdrop for WB
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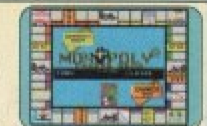


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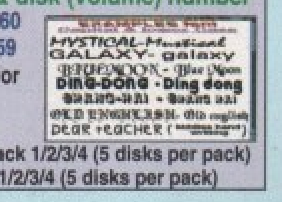
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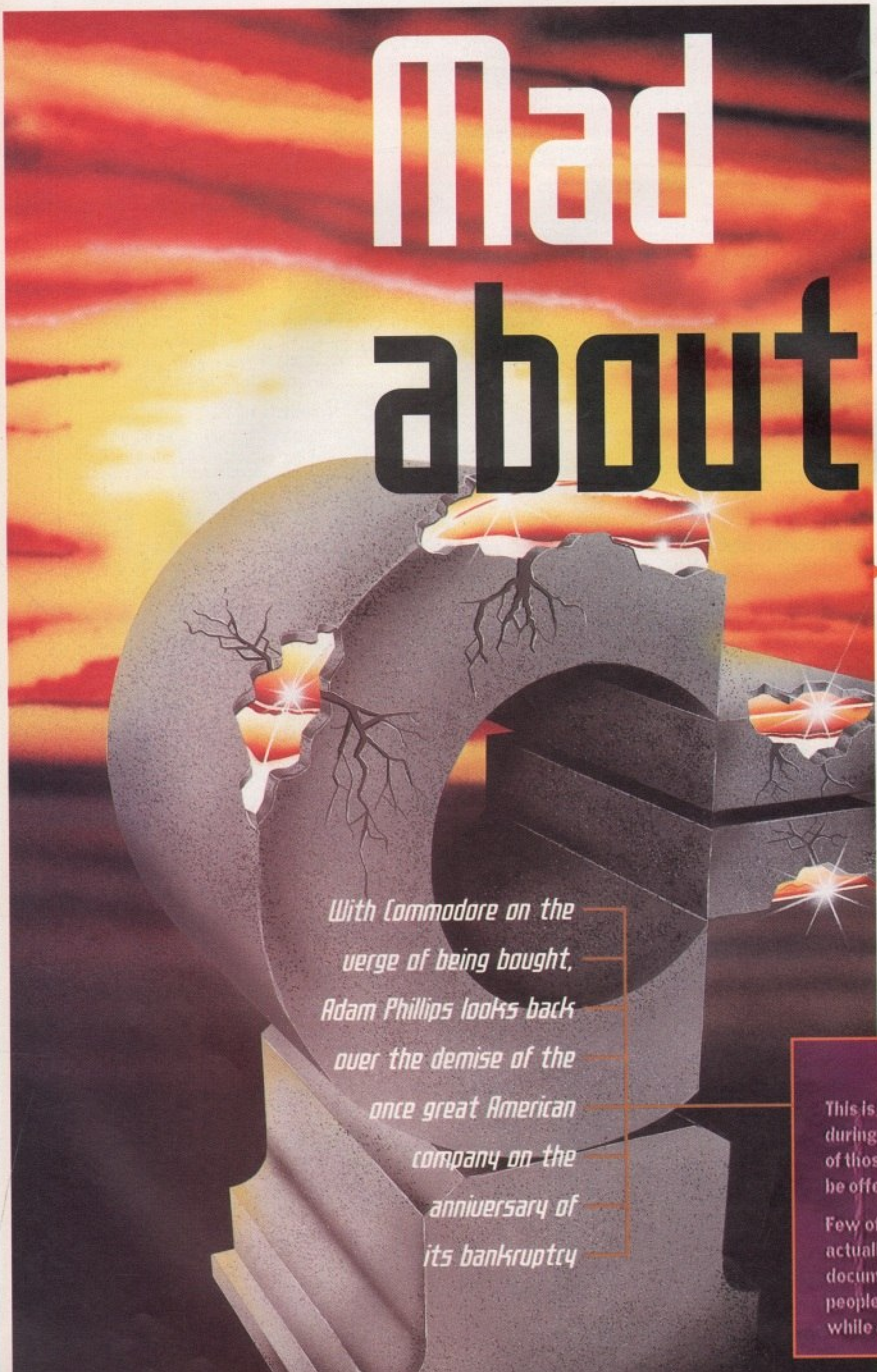
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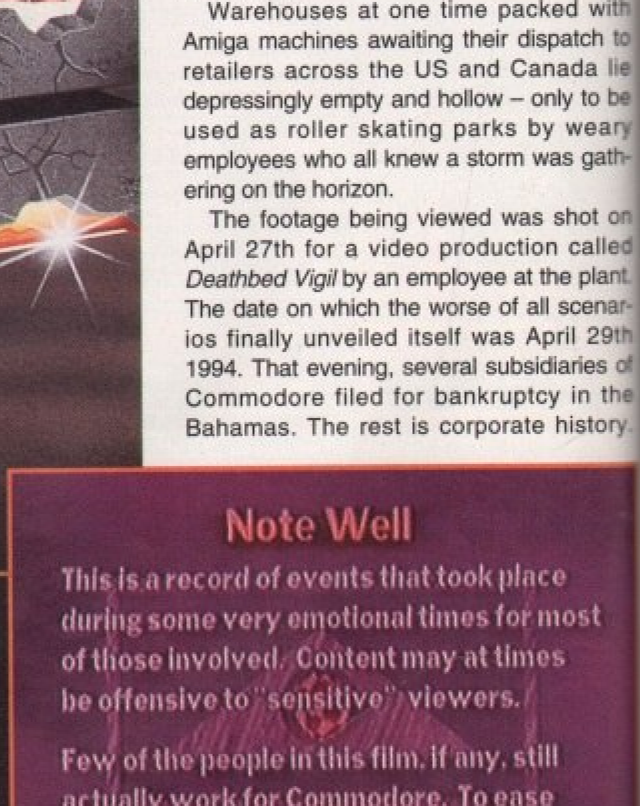
Mad about Ali

With Commodore on the verge of being bought, Adam Phillips looks back over the demise of the once great American company on the anniversary of its bankruptcy

The camera moves unsteadily in the hands of its operator as he walks through the empty corridors, production lines and warehouses of the Pennsylvanian-based headquarters of Commodore. Deserted but for a receptionist and a dozen soon-to-be ex-employees, it's a morbid contrast to the once financially successful site that boasted a staff of 1,000 employees.

Warehouses at one time packed with Amiga machines awaiting their dispatch to retailers across the US and Canada lie depressingly empty and hollow – only to be used as roller skating parks by weary employees who all knew a storm was gathering on the horizon.

The footage being viewed was shot on April 27th for a video production called *Deathbed Vigil* by an employee at the plant. The date on which the worse of all scenarios finally unveiled itself was April 29th 1994. That evening, several subsidiaries of Commodore filed for bankruptcy in the Bahamas. The rest is corporate history.



The warning text at the beginning of Deathbed Vigil – in fact, the language in the video is less harsh than you'd expect under the circumstances

Even the most mild of computer enthusiasts can't have failed to pick up on the subsequent year that has thrown up legal tanglings and monetary arguments. While the self-defeating bickering is to finally come to an end on April 20th with money having been lost fist over clenched fist, it's worthwhile to think back to how the whole mess started.

From the great American dream to another example of white collar mismanagement, people inside and out of the company are happy to point the finger of guilt at one man – Mehdi Ali.

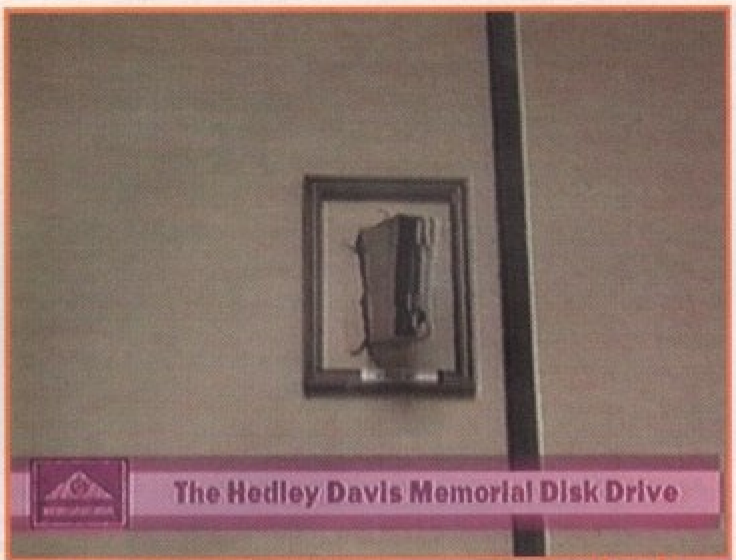
Deathbed Vigil

Flicking through the newspapers, books and other sources detailing defunct companies, it becomes apparent that some badly run businesses operate in a certain fashion. There are three layers – the bottom layer is the employees working on the ground level of building the product, whatever it maybe. At the top are the upper management making their money while it lasts, but out of touch with their business and staff, and finally there's the mid management – the 'messengers' who regularly take the flak for the mistakes made 'upstairs.'

On settling down to watch the two-hour video shot by David Haynie, a now long-gone engineer at the Pennsylvania production plant, the above scenario becomes very obvious. Slackly shot on S-VHS, the video offers a vivid, if meandering display of the bitterness and camaraderie felt by the now ex-employees at the time of the Commodore crash.

Much of the two hours is spent re-telling schoolyard-like pranks and practical jokes as if this video was made for friends, not world-wide release, but underneath the amateurish look is some revealing and sobering documentary making.

After the Scala-created titles have moved off screen in all manner of directions, the cameraman-cum-presenter, Haynie, takes the viewer round the production plant. Here and throughout the rest of the video,



A sign of the taxing times when designing and developing the Amiga

screens of text form the backbone of detailing the Commodore collapse.

We learn that the Pennsylvanian site in West Chester once supported 1,000 employees in engineering, tech support, facilities, sales marketing, international dealings and manufacturing. The plant could run for 24-hours a day, primarily producing Amiga products for the US and Canadian markets.

MARCHING ORDERS

During two previous days before the video shoot, over half of the dwindling ranks of employees were given their marching orders in the cafeteria. When we join them, the offices are practically deserted with only a handful of people packing their things away for the final time.

Ask any of them there what caused the downfall of the Amiga and they'll happily point out a string of events that led to its collapse – the year 1991 had held great promise for the steady rise of the A500, replacing its ageing forefather, the C64, in the European home market.

The A3000 was beginning to make important headway in the high-end market such as video. According to Deathbed Vigil, the real downturn in Commodore's path was in Summer 1991 when the new engineering management took over.

In 1992, the management green lighted a mid-range of ECS-based systems which were subsequently built. On its arrival, the ECS-based 500+ was rejected by all Commodore sales divisions but released anyway. Adding further to their bewilderment and dismay, the A500 was the first still successful machine to be cancelled in Commodore's history. Come April '92, there was still no AGA machine.

By October '92, all AGA projects had been cancelled, including the enhanced 3000, with only a handful built for OS development. Some of its components were eventually remade into the A600, an A500 replacement. More costly than the A500, it offered the user less, much to the dismay of the engineers in the labs.

NOTHING NEW

While other manufacturers such as Apple and IBM continued to upgrade and enhance their machines, the 4000, a slap-together of the A3000 parts, was finally released in the latter half of '92. The AGA chipset was finally allowed to be included but internally at Commodore, engineers winced in the knowledge that, in their eyes, it was the first Amiga to be delivered with no new system-specific custom chips.

Then the 1200 happened – or in the eyes of Deathbed Vigil, nearly happened. With its better design and healthier resources, the machine nearly missed the vital Christmas season. While not bombing out of the market, there weren't enough parts ordered to build an adequate number of machines. Meanwhile, the ECS-based systems aroused no consumer interest and few could get one of the new AGA computers.

As a result of this mismanagement, Commodore lost $350 million and during the latter half of 1993, matters went from bad to worse with large staff cuts in the summer and the eagerly-awaited AAA project ground to a halt due to lack of money. The only good news for Commodore at this time was the design and manufacture of the ➤

Pleasance POV

During the fateful month of April '94, while many Commodore subsidiaries were filing for bankruptcy, the UK division was beginning to show its associates what could be achieved with the right work ethic. David Pleasance, the joint managing director of C=UK with Colin Proudfoot, remembers, though, that the international company's situation was rapidly going downhill come Christmas 1993. "The warning signs were that the company couldn't provide Christmas supplies for the consumer market."

Pleasance, who worked with Ali for two years in the States, verifies The Deathbed Vigil video's doubts in Ali's leadership skills, and that all the subsidiaries across the globe did their utmost to point out any mistakes that needed rectifying: "I can assure you that a large number of general managers and managing directors of the subsidiaries all put forward suggestions, but Ali seemed to ignore them."

In fact, these suggestions were normally brought up at large meetings where the key figures at Commodore would sit down and discuss what should be done, "but then they [the upper management] would go off and do something completely different."

Pleasance is happy to expand on the subject of Ali: "Everybody would be in his favour for a given period of time and then they would be out of favour for a given period of time. It's quite a common management syndrome." He continued: "It's okay if the person has a good grasp of the business, you can get away with it, but if all your decisions are based entirely on that rationality with little knowledge of the business then it's not a good thing – as the bankruptcy has shown."

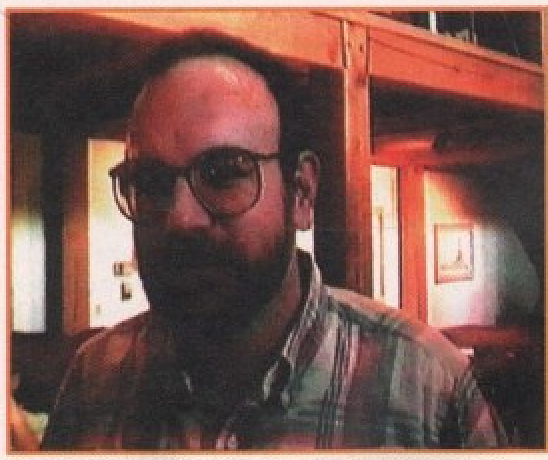


David Pleasance: "There's no doubt in my mind that Ali is the person responsible for the demise of Commodore

One of the main reasons he believes the company fell through was that Commodore found itself with an identity crisis. "Commodore didn't know what it was – the fact of the matter is that we're a consumer electronics company. That's what we are. We're not an IBM or a Compaq and I don't believe we ever will be. That was the problem, we lost sight of our roots which is home computing. We tried to be a PC manufacturer, delved in UNIX and all this stuff which was complete nonsense."

Ask Pleasance if Ali is being used as a scapegoat for all the company's problems and he is adamant that he is not: "At the end of the day, he has controlled the company for several years and he was a very autocratic leader. In that respect, the buck stops here. There is nobody else. Let's be honest about it, if the company had been making millions of dollars in profit, then he'd have claimed all the glory. There's no doubt in my mind that he is the person who is responsible."

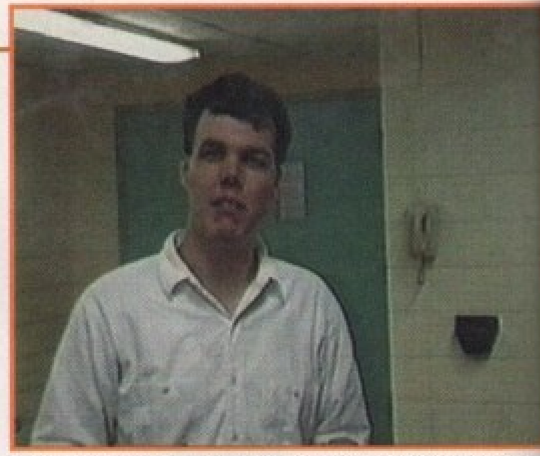
At Margarta's



Dr Ed Hepler, ex-advanced IC development. On the subject of the layoffs two days before the bankruptcy: "A sad state of affairs... so much talent and energy wasted"



On the subject of Ali's handling of Commodore: "A billion dollars to minus 500 million in two years"



Tim Mcdonald, ex-AAA chip designer. On the subject of Ali: "In my entire life, I've never wished ill on a person before... if Mehdi Ali was standing in front of a bus coming towards him, I'd look the other way



Jeff Porter, ex-director of new product development. On the subject of Ali: "Are you a general a*****e or is it anything specific? No, I think you're just a general a*****e"

➤ CD32, primed for the Christmas '93 market. As usual, though, finances were so tight only 100,000 machines were built. The engineers at the West Chester site believe the company could have survived if they had been able to produce 400,000.

Morale in the meantime was at an all-time low – people who had survived the summer lay off were packing their bags and leaving under their own steam anyway. While the CD32 continued to sell relatively well, especially in Europe, Commodore's products in development were scarce – the CD32's Mpeg module and the A4000T's OS software that included 3.1 were the only developments to reach the shelves. Other hardware and chip projects were relegated to being designed but not built.

By the time April '94 had arrived, work had all but ground to a halt, with many employees being told by the management to actively hunt out new jobs. The rumour mill was in full swing with talk of buyouts and company failure.

Come April 25th and 26th, a majority of the remaining staff were told that they'd been laid off. On April 29th, Commodore filed for bankruptcy.

The rest of the video takes the viewer on a unique behind-the-scenes look at a crippled company. After the final large layoff on the 26th, the lunch held at Magrittes, the staff's favourite diner, bar and hangout, is a scene of a group of people upset with the way they've been treated but retaining their surprisingly good spirits.

The consensus round the restaurant at that time was that the order to sack many of the people in the video had come directly from the president of Commodore, Mehdi Ali. Subsequently, there are many colourful exchanges of messages for the man in case he should see The Deathbed Vigil.

SMASHING TIMES

Other scenes that stand out from the recounting of employee pranks are the rather surprising images of ex-staff smashing up a variety of Amiga keyboards into individual pieces via the use of hammers, young children and by reversing cars. The resentment felt towards upper management is quite ferocious.

Take the scene where a Guy Fawkes-like dummy of Mehdi Ali is ritually soaked in lighter fluid and then set alight to the accompanying strains of an electric guitar and a jeering audience.

Accusations are levelled at marketing for not promoting the Amiga sufficiently, and

Man of that moment

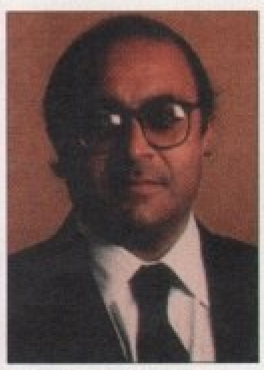
Mehdi Ali, an investment banker, was employed at Commodore in 1986 as a consultant from Dillon Reed by Irving Gould, the CEO at the company. After successfully securing long-term financing for the Amiga technology with the Prudential, Ali was offered the job of president for the company by Gould, with the main focus on sales and marketing. He accepted.

The company head honchos then consisted of Ali, Henry Ruben as head of engineering and manufacturing, and finally Gould himself who over-saw the other two. In Jeff Porter's words, the director of new product development, at the time "clearly Mehdi believed he was in charge". In fact, asking Porter about who exactly was in charge officially, it becomes apparent that no-one was particularly sure.

"I didn't really know anything about him – Ali was low profile as a consultant..." commented David Pleasance, managing director of Commodore UK. "It wasn't until he took over that I had any contact with him and I have to say perhaps I was gullible, but he talked a good story."

While sales and marketing, headed by Ali, has always been criticised for one of the major factors of the company's demise, Jeff Porter offers up another reason which he is convinced was the ultimate cause – the mis-management of Commdore's inventory.

The first inventory mistake made was with the arrival of the A600. Hailed by Kelly Somner, the then managing director of C=UK, as the immediate successor to the A500 and that the A500 was dead, other Commodore people disagreed. Despite this the A600 was released – the problem was that the factory didn't match what marketing had planned. On the 600's release, they realised there was still a large amount of 500s in stock. Subsequently, this stock had to be sold off at a reduced price to clear it out of the way, thus making an unhealthy loss.



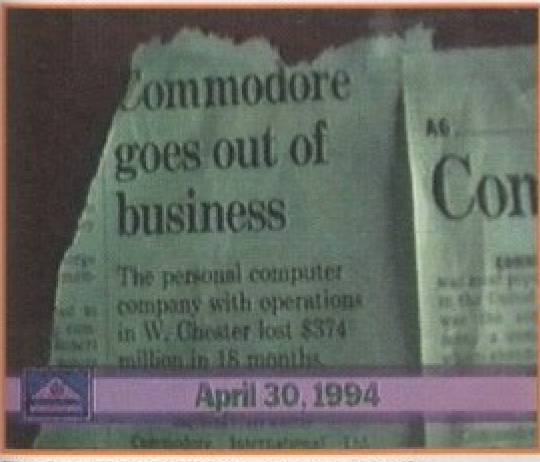
Mehdi Ali: The former president of Commodore and the subject of many accusations and much bitterness

Perhaps Commodore could have survived this, muses Porter, but exactly the same thing happened next Christmas with the arrival of the A1200. Jeff Porter believes that is what killed Commodore ultimately, not sales and marketing. "No company can survive two years like that in row."

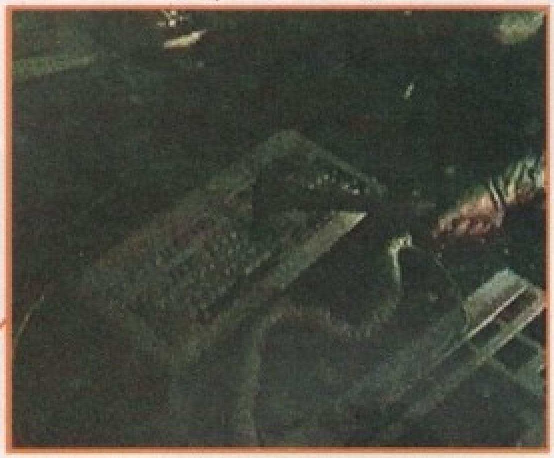
At present, Ali is under investigation for his actions while at Commodore. For those that have been following the company's story, you'll know that Ali and Gould have been trying to block the recent joint decision between the Bahamian and US courts.

The agreement states that he and Gould can be held responsible for any misdealings in the company during the 12 months previous to the bankruptcy instead, of the usual three months under Bahamian law. At the time of going to press, the outcome of Ali's blocking action is yet to be resolved.

Amiga Computing contacted Mehdi Ali at home to give him the chance to reply to the comments made in this article. Unfortunately, he was none too keen to answer any of our questions. He asked us to direct our questions through Commodore which would then be passed onto him. Alas, whether he likes or not, Mr Ali no longer has any association with the company so this was not possible.



The Commodore collapse as reported by the Philadelphia Inquirer on the 30th April



Ex-employees vent their anger on Amiga keyboards. Someone calls out: "Anyone got a chainsaw?" No, but somebody has a car...



The bizarre sight of Mehdi Ali's dummy being burnt to the tones of an electric guitar. Someone calls out: "This is probably the only warmth we ever got out of the man"

when they did come up with an idea that worked, upper management were seen as the principal reason for messing it up.

Apparently, in another wasted opportunity, Commodore had worked out a deal with a Japanese company for the sale of the Amiga in the land of the rising sun. At the time, the Japanese market was seen as a virgin market sitting there ripe for a dominant computer to sweep it up. Apple had made some headway and Commodore realised they could achieve a similar success with the right software support. According to The Deathbed Vigil video, the deal came down to a traditional meeting between company heads, and Commodore management blew it. Twice.

Through all this anger and frustration, the real message of the video comes through. Computer engineers and prodigies have always had a reputation for being almost obsessive, working late hours and sacrificing their social life in the process. The ex-employees truly believed in their product, in fact judging from this video the Amiga was and still is the love of their life.

Because of this passion for the same goal, all the people truly involved with the Amiga's creation and development also created a close-knit community which can only be described as something akin to a family.

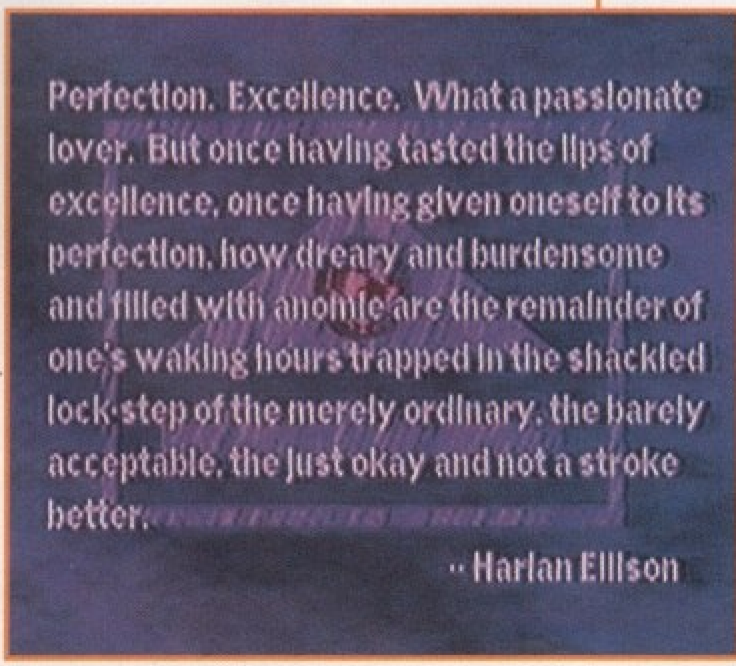
Perhaps this sounds a touch over sentimental and, well, American (group hug, everyone), but the spirit is refreshingly obvious enough and serves as a contrast to the more cut-throat business ethics seen in the '80s and '90s. Judging from this video, it's a shame that the determination, effort and out-and-out passion of these people for a machine didn't appear to be supported by the management at the top with the real power. AC

The bottom line

If you're expecting a Modern Times/Cutting Edge professionalism to Deathbed Vigil, you'll be disappointed. The music, titles and opening shot at the beginning are reminiscent of some tacky soft porn flick with subsequent footage like that of a family video.

Because of the substantial price, The Deathbed Vigil And Other Stories Of Digital Angst is worth buying only if you are an avid Amiga follower. It's loosely shot and could be edited down to an hour's length or less very easily but, for true Amiga fanatics, it's an essential purchase and an invaluable insight.

Video	**Deathbed Vigil**
Price	**£25.95**
Distributor	**Almathera**
Tel	**0181-687 0040**



This sentiment is genuine

Think about the future

Almost a year ago to the day, the long-awaited bidding day is nearly upon us. This day is monumental to the future of the Amiga. On the 20th April, someone will walk away with the rights to the Amiga technology and the long road to recovery can at last be begun.

It's been one hell of a year in the machine's history. A year that was seen by Pleasance at the beginning as a "small hiatus" has subsequently turned into a mountain.

But here's the amazing fact about the Amiga – it's still here, alive and kicking. There's no doubt that it's suffered and given the PC a boost in to the home market, yet for a computer to last so long in financial limbo is seen by some as a miracle.

April 20th is the absolute latest the buyout could have occurred on. The machine's diminished stocks need refilling and the Amiga has to be back in full circulation for Christmas '95. The question mark at the moment is hovering over the potential winner with very financially successful Escom making the surprise move and securing the first bona fido bid.

Insiders believe that the German company will win out in the end, but there is still competition in the shape of the C=UK MBO and CEI in America. Pleasance is quick to point out: "It's like buying an antique at an auction. You think you've got it and somebody from out of the blue comes in and outbids you. We still believe the business is worth more to us because we have an existing business ready to go."

Whoever wins, matters can't really get worse in the foreseeable future than they are already. New money and a change of philosophy will hopefully get the Amiga back into the conscience of the computer buying public.

While it is going to be difficult to convince some of the third-party developers and software houses that the machine is back for good, there are enough companies, teams and individuals involved already to inject some much needed life into the Amiga.

And of course, there's the Amiga user who's stood by the machine through thick and thin, steadfastly refusing to move onto another platform, without whom this magazine and other publications wouldn't be here today.

The Amiga is about to reborn.

Commodore conundrums



I just don't get it. We've all being waiting months now for a solution to the Commodore crisis and still nothing has happened. Despite the obvious dangers of leaving the Amiga out in the cold for far too long, I find it worrying that those suntanned lawyers, liquidators and corporate high flyers seem to be oblivious to the fact that if this carries on much longer, there'll be no business to sell.

Maybe I'm stating the bleeding obvious but this whole buyout thing, especially with Mehdi Ali throwing his sad and rather undeveloped spanner into the works to cover his tracks, is just getting, in a word, pathetic.

I know big business and legal wranglings are an horrendous nightmare and its intricacies require the patience of a saint but, for crying out loud, how long is this back and forth situation going to go on for? Does Pleasance really believe he's got a hope of revitalising the Amiga after all this time? I don't think he's got a chance in hell.

Yours sick of the whole thing,

M Sturgess, Bickerstaff

We're getting more and more letters like this one, slamming the whole legal schenanigans, and patience from dedicated users is turning to frustration. At the end of the day, while everyone knows, including ourselves and those rather bronzed corporate players in the Bahamas, that delay means a less valuable commodity, if there are legal problems they have to be dealt with and everyone has to come out of the situation happy with what they've got.

Don't be surprised if some people involved probably don't give a damn about the Amiga and its future and just want their money back – that's why the bidding system was demanded to make sure that the largest amount of money possible would be made on the sale of the Commodore machine.

While we believe that the Amiga is some kind of soul mate, judging from the letters we receive, the boys with the big bucks just see it as yet another product that was badly handled by its management – in a word, why should they care?

As cynically as that sounds though, I do believe that Pleasance and co. could make a go of it – it'll be tough, but if they can find their low-priced market and keep third-party developers pumping out products that make the Amiga a most enviable machine, the future could be bright. Whoever wins the bidding process has their work cut out though.

TCS in a mess

I write to draw your attention to the fact that a company that has advertised in your magazine regularly of late is disreputable to say the least. The company concerned is Total Computer Supplies. I ordered goods from them in mid January and to date have received from them nothing other than excuses, broken promises and lies.

After many weeks of regularly phoning and chasing, I eventually began to suspect that there was something dodgy about them. I contacted the Hertfordshire Trading Standards Office and learned that this company was well known to them for failing to supply goods or return money. I have demanded for the return of my money three times, but to no avail.

I acknowledge that you cannot be held responsible for your advertisers but they do of course discredit your magazine.

R G Huxley, Stafford

If you read last month's copy of *Amiga Computing* you will have noticed in the news pages that we mentioned TCS, along with WTS, were raided by the police.

For you this is not exactly good news as you are still owed the money for the goods you ordered, and I can only suggest you contact the Hertfordshire Trading Standards Office again to be advised on your position financially.

Compo complaints

I answered an advertisement in issue 83 (February '95) of your magazine by Compo Software Ltd and ordered a memory upgrade for an Amiga 600 with clock. I sent a cheque for £29.99 on 1 February 95 and received the item on 28 February. As it was defective I telephoned the suppliers and was told to return it which I did, with a covering letter (copy enclosed). I telephoned several times to enquire what was happening and spoke to Simon Yardley. I have been given all sorts of excuses and now they are saying they have no record of it having been returned, although it was sent by recorded mail and the Post Office tell me it was delivered and signed for on 2 March.

I have been advised to write to you by the Citizens Advice Bureau before I seek advice from the Department of Fair Trading and the Trading Standards Office. I would welcome your comments.

R J Christopher, Dorset

If the facts laid out in your letter are 100 per cent accurate then Compo Software have some serious explaining to do to yourself and the Trading

➤

Way out back

Living out in the outback of Australia may seem like a strange place to own an Amiga but I've been using my trusty A1200 for the last couple of years to help manage my accounts for my ranch, write letters and even lose a few hours playing on classics like Frontier. At the moment, I'm considering buying the latest Deluxe Paint and/or Photogenics to show some of my Aboriginal friends.

My guess is that in the future computer-based art is going to take off in a huge way and some of the stuff my friends are creating with real materials will translate very well onto the computer screen. I'll be sending their stuff out to PD libraries round the world once they've finished.

Perhaps you could consider a gallery section in your magazine to show off the highlights of Amiga-created art from around the world. It's a thought anyway.

Keep providing me with the latest info on all things Amiga – it can get mighty lonely out here where technology is hardly at the cutting edge.

Jim Anderson, Woga Woga, Australia

It's always good to hear of an individual out there who's using the Amiga in the unlikeliest of situations. Computer art has already proved popular with the public, perhaps not yet in art galleries but computer-created pictures are a big success on the Internet and on compilation CDs. It would be interesting to see how Aboriginal art is influenced by computers, so make sure you send us an example of their work when it's done.

As for the art gallery idea, I'm afraid to say we have no plans at present to introduce one.

➤
Standards Office. As any customer knows, post-sales care is as vital as picking up the best deal.

There's nothing worse than splashing out on something only to find the company simply turns its back on the customer once the deal is done – it's called unprofessionalism and, for the company, is akin to committing commercial suicide. When are companies going to learn that if you treat your punters with a bit respect, they'll come back and shop with you again because they trust you?

Got something to say through the pages of AC? Ezra Surf is our mailman, dedicated to reading your letters and selecting the most interesting for publication. Drop him a line at:

Ezra Surf's Postbag , Amiga Computing Adlington Park, Macclesfield SK10 4NP

Please don't enclose saes as Ezra just hasn't got enough paper to reply personally. He might also have to shorten your letters, so don't be offended if you end up getting the chop.

Equal rights

I'm writing in about my concern for the lack of women employed in the computer industry and about those who are being used by the industry. From my albeit brief experiences in the industry, it would seem that the whole scene is still geared towards 'boys with their toys', leaving the girls out in the cold.

Meeting some of the users of computers has confronted me with what can only be described as males of the Beavis and Butthead variety at best. I'm by no means saying that all computer users are like this but it's disconcerting to never see any females.

Another depressing sight are the female games reps I've met at shows – I couldn't help but wonder if they had been hired for their good looks that'll make the male games reviewers concentrate on their cleavage while absentmindedly giving a bad game a great score. The above does sound a little cynical to say the least, but if the computer industry is to ever really grow up then it has to start pulling in female talent for their personalities and talents and not simply as 'eye candy' for pubescents.

Joanne Colburn, Blackpool

It may be a sad fact of life that computers were and still are a predominantly male pursuit, but your analysis of the kind of people that dominate it is becoming less and less obvious as computers attract a wider and wider circle of society. We're moving away from the traditional geeky stereotype – *Amiga Computing* has met many of its readers and can report that they are on the whole fully rounded individuals with a healthy curiosity in the future of technology and what it can do for them.

As for comments about female games reps, I'm sure they would have more than just a couple of strong words to say to you. While some are attractive/beautiful/pretty, they also do a fine job of getting products seen in the right places and go about their business in the utmost professional manner.

There are cases of exploitation out there where women are used to sell products by standing next to them in bikinis so small it makes their eyes water, but games reps are hardly in the same league. They're doing their job just as their male equivalent would.

Finally, the industry does need to see far more women taking an active role in its development, but there's a nagging part of me that says, for the moment at least, women simply aren't as interested in computers as the male species. That will change, it's just a matter of time.

The right theme

I am writing in response to the answers I have received from Electronic Arts Ltd concerning their game, Theme Park. Before you say get rid of your prehistoric A500, I have spent money upgrading it and find these will not affect the game in any way.

As you will see from my letter to Electronic Arts (enclosed), I have only asked if an upgrade is available for my setup. The first reply received (by fax) says that the game is using the A500 to the "maximum possible" and they also say "the pack is labelled as to the format they apply to." However, the second letter says: "We hope that the future software in development will be able to use the A500 hardware better." Now if this is not an admission that the game is not up to speed then what is!

If you could offer any help it would be appreciated as I seem to be hitting my head against a brick wall with a company that usually gives good service.

Nicholas Lloyd, Bradford

There's not a lot you can really do in a situation like this. While the A500 version may not be up to scratch in every department, the simple fact is that it's been produced now and I can't imagine EA reprogramming another version.

It's sounds horribly cynical and you, as the customer, aren't getting the best deal, but the reality is that the big boys of computer publishing are setting their sights on the Playstation, Sega Saturn and Pentium-based hardware that have the power to deal with large games .

At the end of the day you are getting a raw deal, so take extreme caution when picking up the latest glossy box from the software shelves. All we can suggest is you continue to hassle them until they offer some kind of compensation as an act of good will – unfortunately you have no legal rights whatsoever.

In the line of fire

Here I am sitting in that gap created when the old is on its way out and the new is on the way in. Under a blare of self proclamation, the CD32 reared its CD tray and galloped on to the console scene like some kind of pedigree thoroughbred.

I went to the shop, I removed several sheets of cash from my wallet and gave it over to the sweaty salesman. It's now been nearly two years since the 'next generation' (oh please, it never really was! I was just incredibly gullible back then) console landed with a thud.

What did I get for my money? Port over after port over after port over. Where's Doom? Where's a decent platformer? Why do we have second-rate companies like Core Design (Dragonstone – dumb and dumber), Team 17 (AT-average-R, Alien Breed – lovely intro but the rest, please!) and Millenium (Diggers and Pinkie – dull and duller) working on the CD32 and not Id software, Bullfrog (anyone for Magic Carpet, Syndicate?), LucasArts (Tie Fighter), Origin (System Shock) and all the other PC developers?

Everyone said that the CD32 was capable of great things so why haven't I seen anything of the quality I was led to expect? Surely the likes of Tiefighter can't be that difficult to do.

Tim Johnson, Leeds

You're not happy with the CD32 are you? Let's set the record straight. At the time of its release the CD32 was ahead of its time in terms of technology – please don't expect it to be on the same level as the Playstation or the Saturn. That's being released in Britain come Autumn so there's been a significantly large period of time for better technology to make the CD32 look like a C64.

Your point about the mass of port overs is a valid one but it's difficult under the circumstances to point the finger of blame at Commodore – they were made a lot of promises by certain software houses which never surfaced in reality. As for the 'second-rate' companies that develop for the CD32, our reviewers and many of our punters would shake their heads in disbelief at your dissatisfaction with the quality products that make up most of their releases.

Finally, please stop comparing a cheap console to a massively overpriced computer – the reason some of those big companies only develop on the PC is that there is a lot of power in Pentium and more importantly, a huge user base whose appetite for gaming is increasing month by month. The CD32 and PC are two separate issues and shouldn't be compared.

With the buyout about to go through on 20 April, we could see a reversal in fortunes for the Amiga and the CD32. With a new company with some cash behind the product, all the companies you desperately crave may well come winging their back to the Amiga at some point.

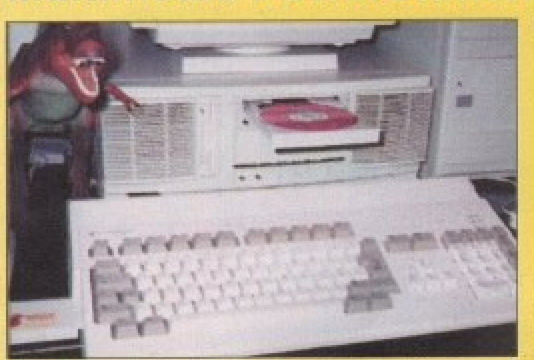
In the meantime, if you want to keep an eye on what really is worth that money crammed into your wallet, keep reading System. We don't recommend sub-standard games.

PS: Syndicate is appearing on the CD32 courtesy of Mindscape. Happy now?

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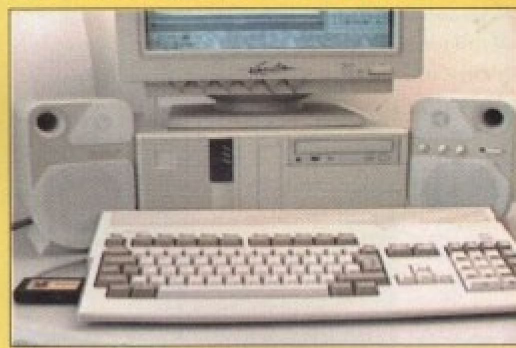
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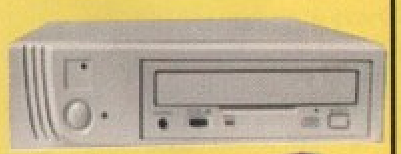
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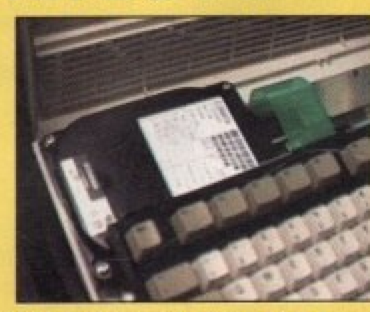
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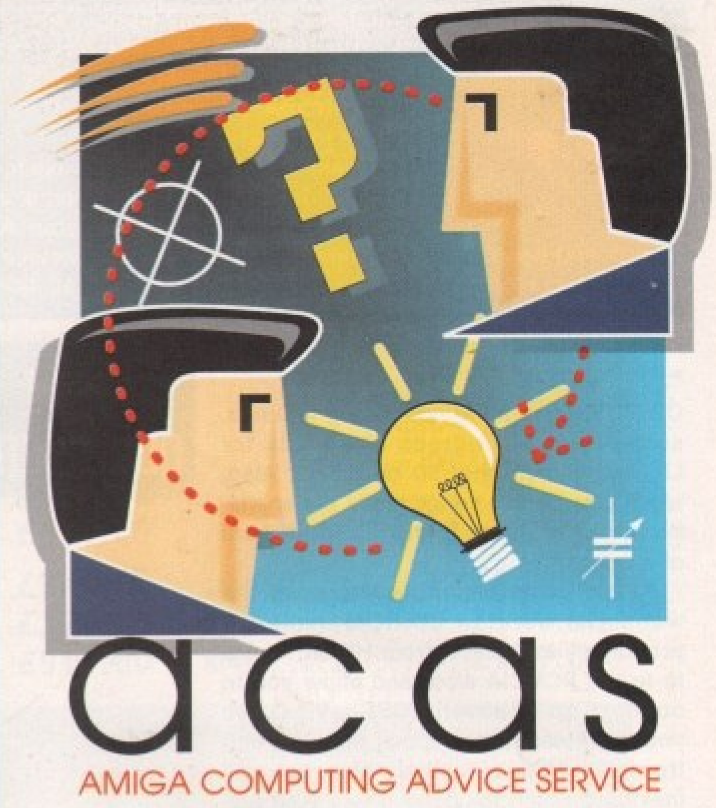
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The dispeller of despair, the light at the end of the dark tunnel. Yes, it's the ACAS pages in time to save all you anguished Amiga owners in need of help



What a LIB:erty

I have an Amiga A1200 with a 120Mb hard drive which I use with a Microvitec monitor.

One of my problems is that when I install one of the Central Licenseware programs (Titanic) onto my hard drive, it erases the current version of the Diskfont library from the Workbench partition, replacing it with an earlier version of the library.

As a result of this, I cannot load the Intellifont program as it apparently requires the latest version of the Diskfont library. Is it possible to have both versions of this library in the Libs: drawer? If it is, how can it be done?

I also have a problem regarding the Env: drawer in the RAM disk. It seems to hold various icons and drawers that relate to programs deleted from my hard drive. All my attempts to delete these items have failed miserably. They are deleted momentarily, but reappear when I boot up again. Can anything be done about this.

Finally, can you please tell me where the AmigaGuide icon should reside? It is currently in Ram:Env. I ask this because AmigaGuide does not always work on my computer and I suspect something may be missing, or in the wrong place.

J. Byrne, Gibraltar

The installation program for the Licenseware game seems pretty bad to me. Any installation script worth its salt would check for the version number of a library. In fact, there's a simple AmigaDOS command available to programmers which can be called to find out what version a currently installed library file is. Strangely enough it's called Version, and you simply pass it the name of a library file and it can return information on what version it is.

If the currently installed library is a later version than the one about to be installed, the copying process is simply skipped (simple huh?). I suggest you rename your latest Diskfont.library file, then install the program. Next, delete the newly installed Diskfont.library file and rename the original file back to its original name. Hopefully, it will work with the later version.

Those mysterious icons and drawers in your RAM drive are probably being created at boot up time. Some programs alter the startup-sequence or user-startup files during installation so they can function properly. Alternatively, they often place an executable program in the WBStartup drawer which pretty much does the same thing.

Check out the WBStartup drawer for such programs, and also browse through your startup-sequence and user-startup files in the S: drawer, for any commands which are creating these items and simply delete them.

More Lightwave

I am very interested in 3D animation and have been using the Persistence Of Vision shareware rendering package for some time now. I have been following your reports and reviews on the Lightwave scene with great interest and a large amount of envy.

By all accounts, it's a stunning 3D tool which can produce astounding results with relative ease. Happy days are here though and I find myself with enough cash to finally splash out on this great software.

I have an Amiga A1200 currently fitted with a memory upgrade board (no accelerator or Floating Point Unit). Will I need to buy another more powerful board and if so, what do you suggest?

K. Saunders, Perth, Australia

Lightwave can run on machines with or without floating point processors thanks to the two sets of programs which come as standard.

Obviously, the speed of Lightwave increases dramatically if you have a FPU so if you can afford one, I suggest you get a new upgrade board. There are many boards out there, so I will give you a description of what you need to be able to use Lightwave at a reasonable level. First off, you will need a minimum of 8Mb to do anything useful with Lightwave. Many RAM boards also feature the ability to add an FPU to the board, typically running at 40 or 50Mhz.

If you opt for a CPU accelerator card, be sure to get one which features a 68030 with MMU facilities. MMU stands for Memory Management Unit. MMU boards allow you to use virtual memory utilities such as Gigamem which let you use space on your hard drive as actual RAM.

Obviously, this is very useful when you start to run out of real memory but can't afford to buy SIMMs. Remember, though, that things will slow down once you run out of real memory and Lightwave has to resort to virtual memory.

Be warned – there are reports of some upgrade boards which cause problems with the PCMCIA slot. Check with your supplier for any reports of such problems with the board. There are many ➤

Movin' on up

For two years now, I have been using the Persistence Of Vision (POV) raytracing program to create 3D graphics. It is a very difficult program to get to grips with and is not very intuitive.

I am now in a position to spend up to £500 on my A4000 and really want to buy either Imagine 3 or Lightwave. However, I'm not sure which would be the best choice.

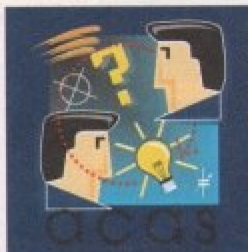
Obviously, in terms of price, Imagine 3.1 is cheaper, but I would rather spend that much more on Lightwave if it is worth it. My main interest is in creating animations and hopefully recording them to video. So, in your opinion which do you think is the best of the two products?

P Lyon, Somerset

I would go with Lightwave. It is much more powerful and easy to use when it comes to animation and video output support. Also, Lightwave is soon to be updated with the imminent release of version 4, and will include Inverse Kinematics, which makes the creation of realistic motion much easier, plus many more procedural textures to make your objects look ultra real.

Imagine 3 may be cheaper but Lightwave version 4 will be a much more 'future proof' investment due to its modularity. This means you will be able to add extra features to it as you grow via third-party software 'plug-ins.'

I therefore strongly suggest you wait and save up the extra £200 or so for Lightwave.



Do you have a problem? Do you sometimes find yourself poised over your Amiga with axe in hand, spouting profanity at the stubborn refusal of your Amiga software or hardware to behave properly?

Well, calm down and swap the axe for pen and paper, jot down your problems, along with a thorough description of your Amiga setup, and send it off to Amiga Computing Advice Service, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP.

Any questions?

➤

CD-ROMs appearing containing textures, surfaces and hundreds of objects for Lightwave and other 3D programs. Also, when you start to create really big animations, you're going to need a lot of hard disk space.

A1200 owners can now access the wonderful world of CD-ROM thanks to products like Squirrel from HiSoft. These fit to the PCMCIA slots and allow you to connect up to seven SCSI devices, so you don't want a board that prevents you from using these devices. Also, you will inevitably reach the point where your animations will require lots of hard disk space, and SCSI devices are very fast and available in capacities measured in Gigabytes (that's 1000Mb). Ideal for really big and juicy animations.

Maxiplan misery

I have an Amiga 500 Plus fitted with GVP HD8 hard disk. For some time I have been using the Maxiplan 4 spreadsheet supplied with your March '93 copy of *Amiga Computing*, which up until recently has worked fine.

However, a fault has developed. Attempts to load Maxiplan onto the hard drive will, after double-clicking on the Maxiplan icon, show the message "Error I need explode library V4 +."

This also occurs if I run the spreadsheet using the floppy disks with the hard drive running. However, as I accidentally found out, if I run Maxiplan from the floppy disk, with the autoboot of the hard drive switched off and the game switch turned on, Maxiplan works correctly.

The problem may have started when I made a botched attempt to load Maxiplan on to a hard drive. Could you please help me with this problem. Jargon free if possible as I am fairly new to computing and getting uncomfortably close to the old and wrinkly stage. Thank you very much for your excellent magazine that I look forward to each month.

L Jones, Surrey

Your problem is caused by the fact that your hard drive seems to have either an earlier version of the Explode.library or most likely doesn't have it at all in the Libs: drawer.

You need to copy the Explode.library file from the Maxiplan CoverDisk Libs: drawer to the same drawer on your hard drive. If you can't see the Libs: drawer, select Show all files from the Window menu on Workbench. Once done, I think you will find that Maxiplan will work correctly.

Unsteady and insane

Please help to preserve my sanity. I have acquired a very cheap (but still working) IBM Vega monitor model 8513. This, I hoped, would provide a greatly improved picture for my A1200 which currently uses an ancient domestic 14 inch TV.

Unfortunately, in spite of spending many hours trying all possible monitor configurations available on the A1200, I am unable to produce a steady picture. Could you please either tell me which settings I should be using, or put me out of my misery and tell me to 'bin' the IBM monitor.

D Townsend, Nottingham

I'm afraid I couldn't find any information on the monitor in question, so let me continue on a few assumptions. First of all, I would guess the monitor is a standard PC one capable of VGA screen modes.

The first question is, how have you connected it to your Amiga? I presume you have a suitable Amiga-to-VGA adapter in to which the 15-pin plug of the IBM monitor is connected.

If not, and you have done a bit of DIY wiring, I suggest you get hold of a proper adapter and try it with that. You're going to need one anyway when you eventually get a monitor to improve your picture, should the IBM one succumb to the 'bin' scenario. Next, you need to make sure you have the appropriate monitor driver files in your Devs drawer in order to get the correct screen modes working. I suggest you copy the VGAOnly and DblPAL files from the Monitor drawer in the Storage directory to the Monitor drawer in the Devs directory.

Reboot your Amiga and check the ScreenMode utility. You should find the DblPAL screenmode choices present. VGAOnly doesn't provide any screen mode choices but seems to sit in the background providing VGA compatibly – well, that's my theory anyway. If anyone knows exactly what VGAOnly does, write in and tell us all.

If the IBM monitor is indeed capable of at least standard VGA modes, this should work. If not, it may be that in their infinite wisdom, IBM have decided to go their own way in terms of monitors and you will probably have to make your way to the nearest rubbish repository.

Faulty memory

A couple of months ago I bought a Wizard 4Mb RAM board. From the moment I installed it I started to have problems with lots of my programs, not just games but serious ones as well. My machine (an A1200 with 60Mb hard drive) now either crashes, showing a software failure message 80040004, the program freezes up, or the mouse locks.

Some of my games will not load and behave erratically. I'm told this is quite often the case when a RAM board is fitted, and most boards give problems. Is this true?

I removed the board last week and have had no problems since. The trouble now is that I've had to re-install the cut-down version of Wordsworth 3.1 and some of my newest games need more than 2Mb of memory.

What can I do next? Is it possible the board is faulty, although it seems to be working some of the time? I'm told that instead of removing the board I could get a program which would, in effect, cancel the board when I'm having problems. Have you heard of this program?

P Bardon, West Yorkshire

I can think of only three valid reasons why a RAM board may intermittently cause lock-up problems. The first is that boards fitted with an FPU may pose problems for certain software. This is why many boards have a 'jumper' which can be used to disable the FPU.

Another problem can stem from the fact that the trapdoor connector which you plug your board into is poorly designed with no guides. This means that sloppily-designed boards can easily skew or move while being connected, meaning some of the electrical connections aren't in proper contact when you switch on.

The last reason is that it is indeed faulty. It could be any component on the board which may be faulty but I would guess that the RAM chips are the culprit. These are very prone to static damage, so be sure to either wear an anti-static wrist strap while handling the board, or at least discharge yourself (of static that is) by touching something earthed like a radiator (preferably one that isn't volcanically hot at the time).

As for being told your problems are common with RAM boards, well frankly that sounds like the sort of thing an uninformed sales person would say to avoid the hassle of correcting a problem. I have used many boards from simple RAM upgrades up to CPU accelerators and I find the majority of them work fine.

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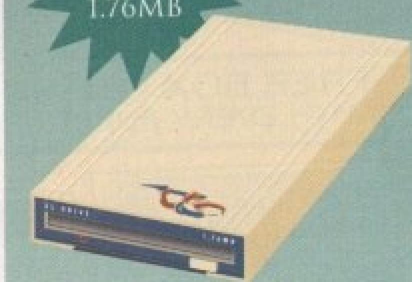
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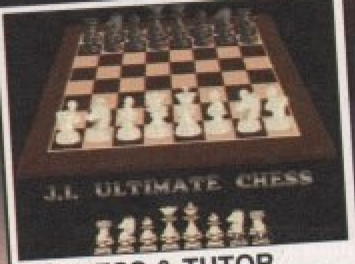
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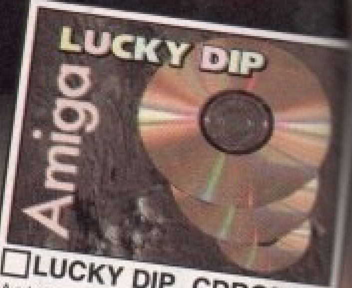
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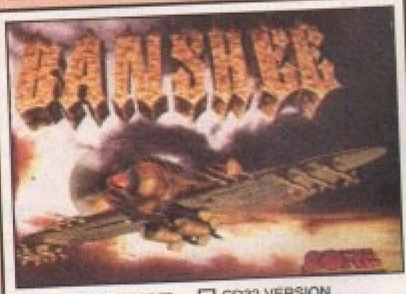
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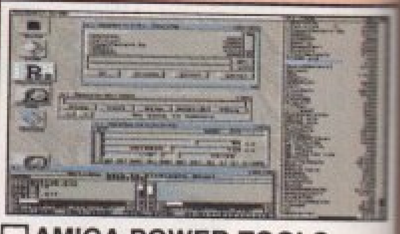
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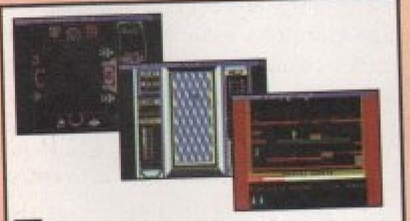
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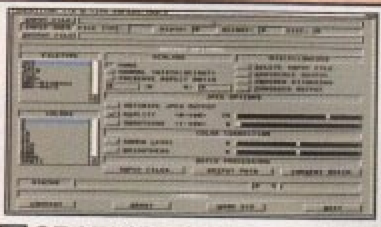
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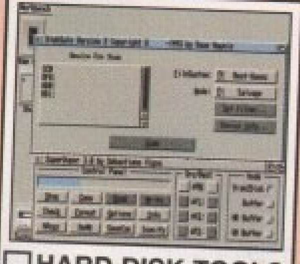
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Virtual estate

Frank Nord takes a gander at some new object sets for Lightwave

Whenever anyone mentions the word 'gothic', we in England always think of gargoyles and tombs and fey, slightly sad young people who wear clothes of any colour as long as it's black and look about as healthy as a six week corpse. But there is a different interpretation of the word gothic in the States, where they are referring to a period roughly around the last half of the 19th century. This evokes an image of wooden houses painted white, with solid, heavy furniture inside, and this is exactly what these object sets are for.

When you open the packages you will see a set of three disks for the Gothic Mansion and five for the furniture objects. Both sets of objects use the standard Commodore installer and ask to be put into the lw:3d directory. After a painless installation process you are ready to begin using the objects. The objects in both sets are very well thought out and convincingly detailed, with lo-res versions for people lacking memory.

In fact, memory turns out to be the bone of contention for these objects. I have 18Mb of ram, but even so I wasn't able to load any of the example scenes in the Gothic Furniture set, and I had to judiciously prune away objects from the lo-res version of the Gothic Mansion which wouldn't be seen from my chosen camera angle because although I had enough memory to load in all 90,000 points and 70,000 odd polygons, I didn't have enough to then render the scene I had set up.

Once I had reduced the scene down to about 50,000 polygons I could then render it, but LightWave has no delete button on the layout screen so, as you can imagine, it was a case of hitting the down arrow to choose the next object, waiting to see which one it was, going into the object menu, hitting clear object, waiting for LightWave's database to be rebuilt, going back out to the layout and repeating the whole process again.

I had to do this about 60 or so times and was definitely wishing I had an 060 card to speed this review up a bit. The picture of the Gothic Mansion was rendered at 640 x 480 with low anti-aliasing and took roughly two hours on my A3000. The one of the bedroom took about 20 minutes at 320 x 240 with low anti-aliasing.

The furniture set has 26 example scenes, all with nice lighting, good default camera angles and a choice of lo-res or hi-res objects. For owners of the companion set there are scene files which use the wall objects from Gothic Mansion. Even using the lo-res versions will still require more than the average UK Amiga owner has at his disposal.

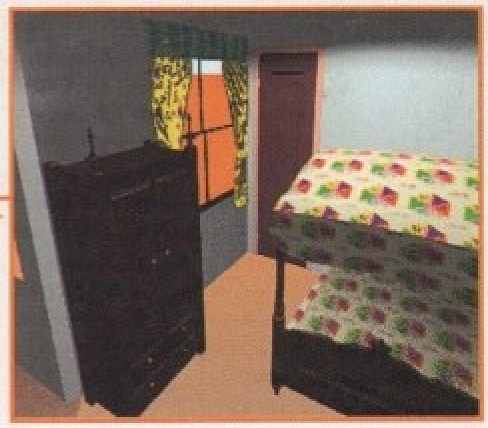
But these sets aren't for your average Amiga user anyway – they are definitely for professional use. Even if you don't want to use the house and furniture as they stand, they offer a good starting point for your own designs. However, from looking at the illustrations in the manual, most of the furniture has several uses. The Gothic Mansion set comes with five scenes with increasing levels of detail. The mansion has two different sets of windows and doors, one of which is designed to open and close. In addition, there is some furniture included with this set, for example basic kitchen furniture such as a cooker and cabinets, a fridge and chopping block. The only thing I thought was slightly lacking was the absence of any wallpaper, leaving the walls throughout the house drab and off-white.

In conclusion then, these two sets of objects are an excellent buy for someone who's getting a bit fed up with the endless poor-quality clones of spaceships from famous TV programs or films, and the furniture should find a lot of use in normal, everyday scenes. If, when Earthquake Productions & Publishing need to reprint the manual, they take a closer look at the spelling of the descriptions and include the various objects' filenames, then all my reservations will disappear.

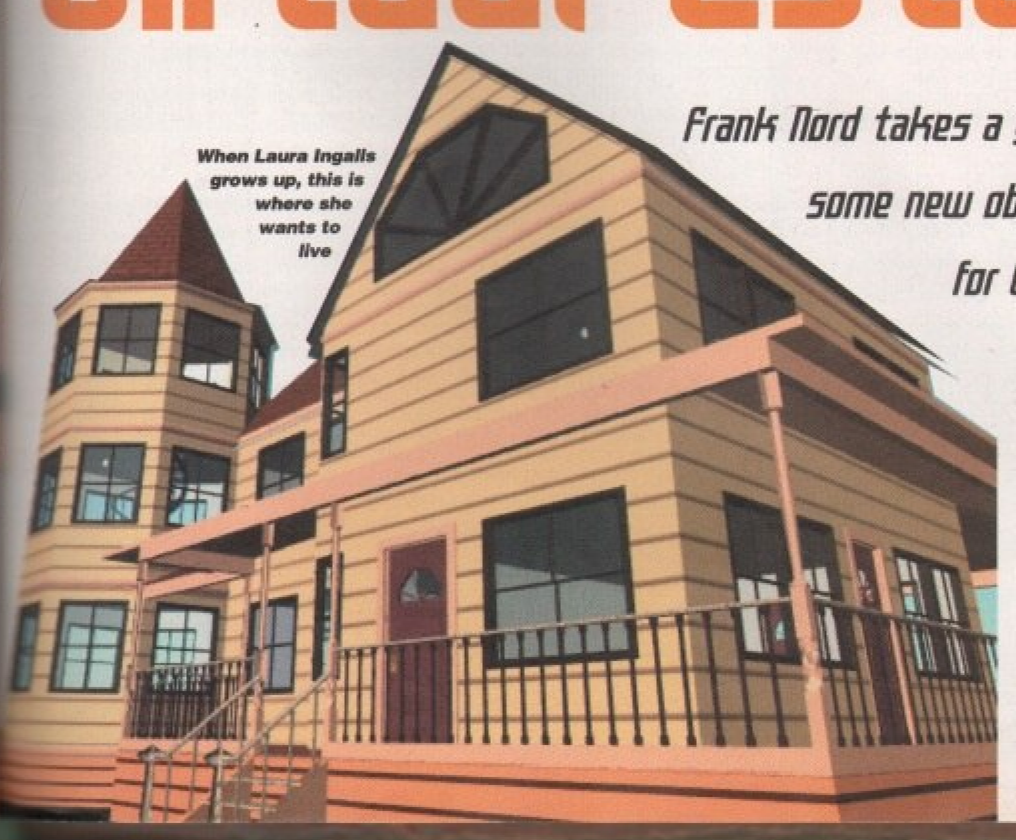
What is a tolit?

I should warn you now not to be disappointed with the presentation of these two sets. It's an unimportant detail, perhaps, but I do think that the obviously talented creator of these objects should have spent a little more time on final presentation (and with a dictionary) before sending them out.

On the most trivial level there are glaring spelling mistakes in the manual which, although it neatly shows the top, front and side elevations of each model, doesn't list them with their given filenames, but a description instead. The scenes provided also have problems of the "Can't find..." nature, which are readily resolved, but annoying.



Tastefully decorated, the master bedroom is airy and spacious



When Laura Ingalls grows up, this is where she wants to live

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RED = Essential BLACK = Recommended

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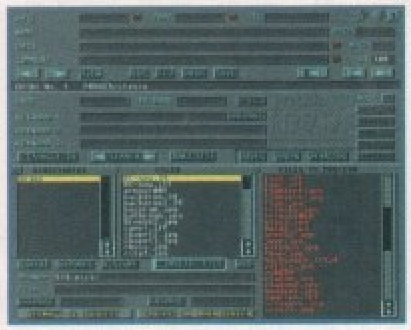
Ease of use	9
Implementation	7
Value for money	8
Overall	8

Smallest picture show

Stevie Kennedy looks at graphicRecall, a mini-pic viewer and graphical database



Thumbnail images are a great way to organise graphic files, but only AGA users will find the display as colourful as this



The custom file requester makes it a quick job to create as many separate databases as the user requires



Both MED modules and IFF sound samples can be catalogued and played back using graphicRecall

When you've been squirreling graphics away all over your hard drive, whether rendered or drawn, or you have a CD full of images for use in presentation or 3D projects, keeping track of the blighters can be a pain. The situation is made even worse by the habit some CD developers have of calling their files 'grt0032.gif' or some other indecipherable naming convention, and it can quickly become impossible to remember which image is which.

One answer proposed by US company Focus GbR is graphicRecall, a database system designed to make housekeeping tasks a little easier. In essence, the program consists of a fairly simple database which, when coupled to a copy of ADPro 2.0 or above, is capable of storing an image bank in the form of mini-pics or 'thumbnails.'

The user, with more piccies than memory allows, need only scan a directory of files and tell the program to get cracking on them, then sit back and wait for ADPro to churn its way through them and create up to 16 images per database page. On AGA machines, the result is a 256-colour representation of the directory which makes it that much easier to spot the file you want.

It's easy enough to create a database. Just select the New Database option from the program's Project menu, use the file requester to select which files to include, then hit the Process button.

If ADPro isn't already running, the package will fire it up and use it to process each image and create a thumbnail version which is saved in a database file on the hard drive. These don't overwrite the original files and they aren't appended to them, so there's no worry about losing or corrupting images .

The file requester approach means it is easy to select just the GIFs or the Jpegs, then build separate databases for each. When the databases are examined using the package's viewscreen, more than one can be loaded at once which avoids the hassle of loading and examining several in turn.

If the user wants to view an image at full size, a right mouse button-click will call up a viewer program such as View or PPShow, but the package isn't restricted to static images. Animations can be catalogued, as can MED modules and sound samples.

The program is also capable of working directly with the Video Toaster and VLab hardware to create thumbnails directly from a source. For example, the VLab ADPro loader will be brought into play and the image in the VLab buffer processed to create an image so that video tapes can be catalogued in graphical form without choking your hard drive with large 24-bit full-screen grabs.

FULL SUITE

DCTV images are handled through a menu toggle option so that the colour thumbnail is a video image rather than the 16-colour raw DCTV image stored in the hardware's grabber, giving graphicRecall a more or less full suite of the most popular Amiga video peripherals. Support for the VLab Airlink remote control unit puts the icing on the cake in this respect. All in all, a good idea and one which is fairly well implemented. Given the non-AGA Amiga's limitations on colour (see box) and the package's friendliness towards sounds, animations, and external hardware, it is clear that the programmers have put a bit of thought into the package's practical application. My biggest concern is that graphicRecall relies far too heavily on ADPro for import and export of images and for creating thumbnails.

Had the designers made the program more self contained, such as the shareware equivalents found on the PC, it would have been an unmissable buy for the graphics fan. As it is, the low price and ease of use makes it well worth a look to any owner of ADPro 2.0 or above.

Focus Gbr's internet address which offers a home page and program info/ screenshots etc is:

http://www.liii.com/~louiev

Palette problems

When used on a non-AGA machine, the graphicRecall viewscreen can be a real sanity-reducer. This is because the screen will only have 32 colours (16 if you use higher resolutions) and each thumbnail has its own 32-colour palette. When the mouse pointer is moved from one thumbnail to another, the entire screen full of images changes palette, bringing on an early headache if you work with the screen for too long.

With AGA machines this isn't as much of a problem, but as the majority of videographers still work with A2000 and A3000 machines, it does mean you'll have to use the program's palette remapping feature. This will use a default palette to create the thumbnails instead of the colours from the original image, and though it avoids the palette switches it's not an ideal solution. Ham might have its drawbacks, but there might be an argument to be made here for using a lo-res-laced Ham screen instead of the 32 and 16-colour screens on offer to non-AGA owners.



The palette on this 16-colour database view screen isn't up to the job of representing much more colourful images, though this is Commodore's fault rather than graphicRecall's

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

4 Mb RAM (Essential) | 8 Mb RAM (Recommended) | ADpro 2.0+

The bottom line

Product: graphicRecall
Supplier: Focus GBR
Tel: 01474 852021
Price: £59.95

Ease of use	**8**
Implementation	**7**
Value for money	**8**
Overall	**8**

public sector



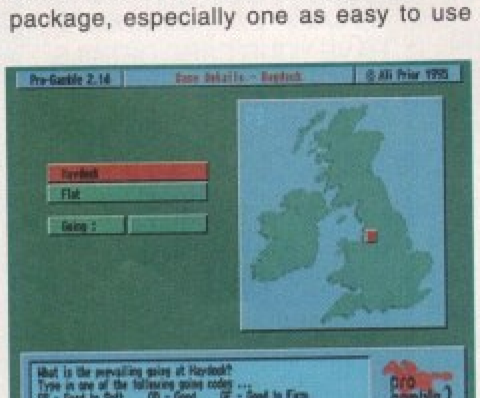
Another hotch-potch of the top-notch, with your financially challenged host Dave Cusick

As I write this I am full of the joys of spring. The clocks went forward last night, everybody is noticeably more cheery and I'm just happy to be alive. On top of it all, like a highly appetising chocolate flake stuck invitingly atop an ice cream cornet, came a refreshingly impressive pile of PD products. So without further ado, let's take a leisurely stroll down affordable avenue...

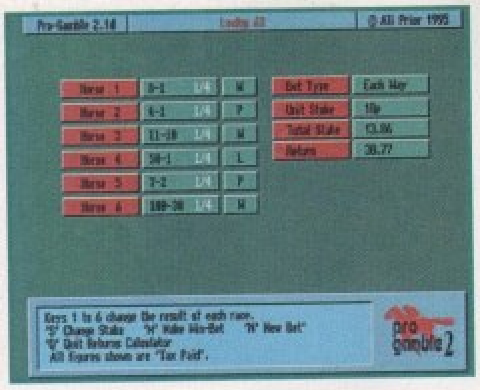
Pro-Gamble 2.1

Programmed by: Ali Prior
Available from: Ali Prior

With the seemingly endless stream of extremely similar National Lottery prediction programs, it was a pleasant change to come across a horse racing prediction package, especially one as easy to use



The easy-to-use Pro-Gamble interface makes entering track and horse data a quick and painless exercise



Instantly work out the possibilities with the Pro-Gamble gains predictor

and attractively presented as Pro-Gamble 2. Entering race details is a straightforward process and involves simply keying in form ratings from a newspaper. The program will then work out whether betting on a particular race looks worthwhile and will recommend a horse to back. Details are then saved to disk – come back to the program next time and you will be asked how the horses performed.

It is also possible to calculate returns on each way bets through a totally independent section of the program, a feature that does appear to be lacking in other racing prediction programs and could save the punter some lengthy calculations.

The keyboard-driven interface is beautifully easy to work with and features such as the program's ability to fill in a racecourse name when you've only entered the first couple of letters add to the professional feel of the product. How it performs in practice remains to be seen, but given that horse racing is a far better bet than purchasing a National Lottery ticket, it's the sort of program that could appeal to many people.

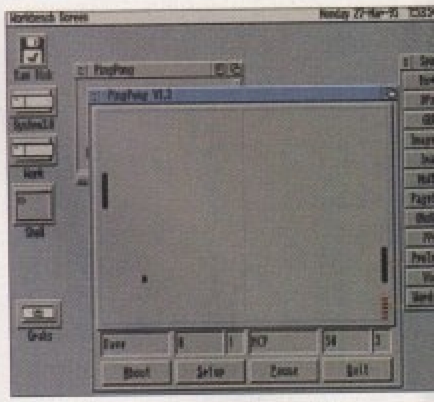
A free demo is available from the author as is the full version which costs a few pounds. It might also be interesting to keep an eye out for Ali's next production, because it's going to be – wait for it – a National Lottery prediction program!

PD of the month

Workbench Games 2.5

Programmed by: Various
Available from: Your Choice
Disk No. GA 571

For a long time I've been searching for a decent workbench-friendly version of Tetris, and on this disk, among numerous other gems, I've finally found it. It was hiding among versions of Columns, 15 (one of those sliding puzzle things), Boulderdash, Ping Pong and many more window-based lovelies, but I spotted it. And since then, I've hardly got any work done at all. There's literally hours worth hugely enjoyable distraction on offer he with a total of 14 games included. Six of best, including WBTetris, are by a ch called Marat Fayzullin and share sim interfaces and features. This is one of



Bring back those memories of the Grandsta Video Game system with Ping Pong

Lemming Warfare

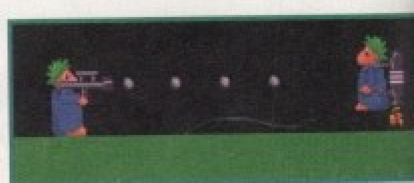
Produced by: Futura
Available from: Freestyle PD (£1.50

Technically stunning it may not be, but and wacky are certainly words which justifiably be applied to Lemming War In a nutshell, this is a demo featu lemmings killing one another in se different ways.

There are lemmings shooting one an with rocket launchers, lemmings drop bombs on one another, lemmings trigg traps, and all sorts of other peculiar g on. The graphics might not be too ho there's enough humour in this animati sustain interest, and it's enjoyable en the first couple of times through. Just expect anything too deep... or too sens



Guess what happens to this poor little Lemming next, boys and girls...



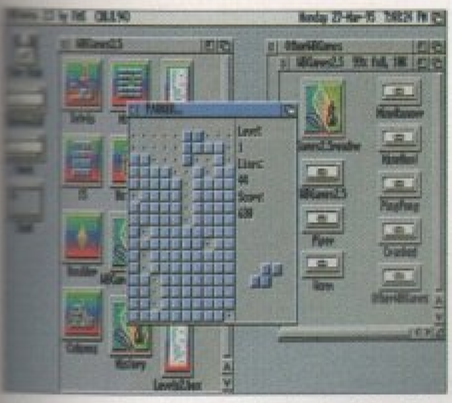
Everything you've ever wanted to do to a Lemming but didn't have the chance to

Mark's PD Compilation

Produced by: Mark McVickers
Available from: Mark McVickers (£1.

A selection of decent utilities and gam included on this first compilation d what will apparently become a series,

best compilations of small but highly playable games I've seen on the Amiga and is definitely recommended. The problem is that once you've got these on your hard drive it becomes rather hard getting anything useful done.



The reason I'm always behind schedule – the best version of Tetris on the Amiga



Super Obliteration, a highly playable, unashamed Pang clone

new one out each month. ReOrg 2, a disk optimiser that speeds up disk accessing considerably and prevents fragmentation of hard drive, and DiskSalv 2, which is unsurprisingly a disk salvaging program, should be in everybody's collection. Slightly less essential but a good deal more entertaining is Super Obliteration (originally reviewed in AC81), a slick Pang clone.

Tired of blasting asteroids and need to play sound samples direct from disk? No problem, give the job to DSound. High speed disk copier and formatter SuperDuper 3 also makes an appearance in among this veritable pot pourri of programs.

Among the best of the rest is Croak, a good version of Frogger. In fact, of the 11 programs on the disk, there's only one that's really poor (Egyptian Run). Long time Amiga owners may well own a few of these programs already, but even so there's probably something on this disk for everybody.

Mosaic AGA Slideshow

Produced by: Exceed
Available from:
Freestyle PD (£1.50)

What is there about Mosaic that sets it apart from numerous other AGA slideshows? Not a vast amount, I must admit. The music's typically forgettable and the pictures are not especially original either.

Fortunately, the standard of artwork throughout is quite high and the presentation is slick and professional, so you're not left with the feeling of total indifference that so many slideshows produce. About half the pictures on the disk are AGA only, and not surprisingly these are the best in terms of image quality. Highlights include a colourful space scene plus a gun-toting chicken.



One of the impressive pictures from Mosaic

Bring it on down...

Calling all PD libraries and individuals with absolutely any program, whatever its purpose, which you consider worthy of review. Whether it will be freely distributable public domain, shareware or licenceware, if you feel it's of sufficient quality to merit coverage then stick it in a jiffy bag or padded envelope and send it in with all haste. I promise I'll at least look at your work. Please clearly label the disk, and include a cover letter supplying a description of the disk contents, price and some basic instructions. The address to send the disks to is:

Dave Cusick
PD submissions
Amiga Computing
Media House
Adlington Park
Macclesfield SK10 4NP

UTILITY of the month

ImageStudio 2

Programmed by: Andy and Graham Dean
Available from: Demo from PD libraries, new registered versions from the authors

Admittedly it is only a matter of months since the first incarnation of ImageStudio came under scrutiny in these very pages.

➤



A selection of the feature-packed floating selectors available in ImageStudio 2



One of the supplied ARexx scripts can guide you through some of ImageStudio's effects

The Ultimate Quiz Volume 2

Programmed by: Andy Gibson
Available from: F1 Licenceware
Disk No. F1-065 (2 disks, £4.99)

It's back – and this time there's more of it. Infinitely more of it, in fact, because now it is possible to create your own question banks. These can even be sold for profit, so there's a good chance that in the coming months a large number of data disks will be produced by enterprising Amiga owners.

The first of the two disks contains the quiz game itself and detailed instructions of how to create data disks. The second disk contains a bank of questions on Pop Music created by the author, and spanning a wide range of music.



Brain-bending fun with the Ultimate Quiz

I had considered myself to know a little about this topic (as I suppose everybody does), but I confess to being totally baffled by a good proportion of the teasers. Which American singer had their UK hit with Way Down Yonder In New Orleans? Which Clannad song reached number 65 in the charts in 1983? Fortunately, there's a one in three chance of guessing the correct answer, which is just as well because you have a maximum of three credits. Thankfully, on the main menu, as well as the option to play with even fewer credits, there is the facility to turn off the timer which otherwise further pressurises the perplexed player.

The documentation seems to suggest 500 questions can be crammed onto each data disk, so with the possibility of numerous new disks on the way this is one game you should never tire of. It also has educational possibilities, as students could create question banks to test their knowledge of topics and use them as revision aids. Bearing in mind that Student Aid 2 (reviewed a few months back) costs about five times as much as The Ultimate Quiz Volume 2, the latter starts to look like an attractive proposition.

In that time, however, ImageStudio has shifted copies by the cartload, as an extremely powerful and affordable alternative to commercial image processing packages.

The Americans say, "If it ain't broke don't fix it", and understandably the authors have not meddled with the winning formula which combines outstanding operational speed with an easy-to-use Intuition interface. The program still runs on a 1Mb machine by employing a hard drive as virtual memory, and still supports a huge range of image file formats.

But ImageStudio 2 contains large chunks of code which have been completely rewritten, resulting in significant speed increases. As a result, ImageStudio is now capable of outperforming commercial offerings, such as ImageFX and Photogenics, in some areas – for instance, on an A1200 a 24-bit image can be converted to 256 colours in 51 seconds, while ImageFX takes 78 seconds. In file reading and writing operations it leaves the opposition standing.

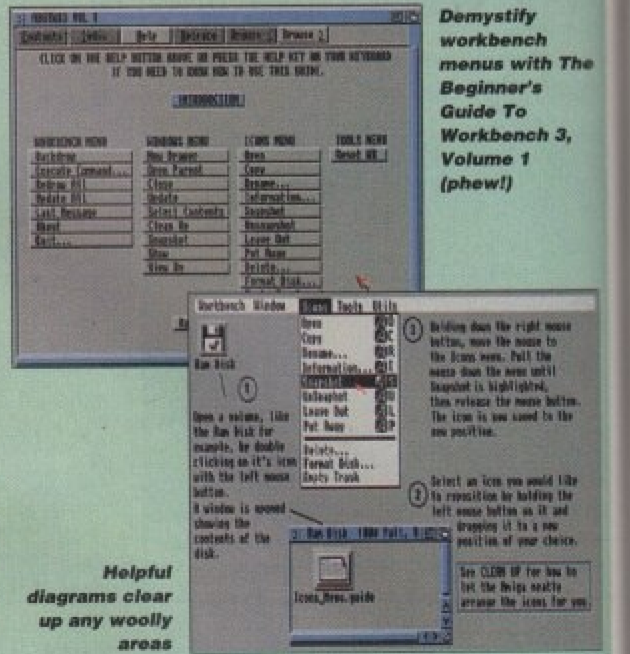
Another major change is the inclusion of ARexx support. A selection of example scripts are included and creating new scripts couldn't be easier, meaning batch file processing and arduous processing operations can be fully automated. Among other useful new features are an on-line AmigaGuide help facility and a Workbench AppIcon which automatically loads into ImageStudio files which are dropped on it. As with the original version, ImageStudio 2 is shareware, although there is a public domain demonstration version available which is only capable of loading pictures of up to 250x250 pixels. People who registered version one can upgrade simply by installing this demo and then selecting the 'create keyfile' menu option, which checks the version one executable and unlocks the disabled features in ImageStudio 2. If you haven't registered yet, there's never been a better time to do so. As a top quality image processor which is easily capable of holding its own against the best on the market, for just a tenner ImageStudio 2 is an absolute bargain and comes strongly recommended.

The Absolute Beginners Guide to Workbench 3.0 (Volume 1)

Produced by: Steve Bye
Available from: F1 Licenceware

This AmigaGuide file contains detailed descriptions of the functions of the Workbench 3 menus, designed to demystify the system for newcomers who have understandably been completely confused by the Workbench 3 User's Guide bundled with AGA machines. Certain parts of the guide have accompanying pictures to illustrate the processes involved. This is an excellent guide and with more volumes promised, each covering a different aspect of the workbench, the prayers of those baffled by snapshotting and trash emptying appear to have been answered.

Also included on the disk are a pair of PD utilities. Filemaster is a simple directory manager capable of performing a variety of useful features such as moving, copying and deleting files, displaying pictures and playing music modules. It's hardly a Directory Opus, but it's a good utility for beginners. Quickgrabber is a screen grabber, a useful program to have knocking around although it's hardly essential for the Amiga newcomer.



Demystify workbench menus with The Beginner's Guide To Workbench 3, Volume 1 (phew!)

Helpful diagrams clear up any woolly areas

Racing World

Programmed by: Michael Pratt
Available from: Michael Pratt (£1 or Disk+SAE)

This competent overhead driving simulation has you travelling the world taking part in races in 20 countries, each with its own track with differing characteristics. Drivers have to contend with conditions as diverse as dry desert tracks in Australia and icy roads in Alaska.

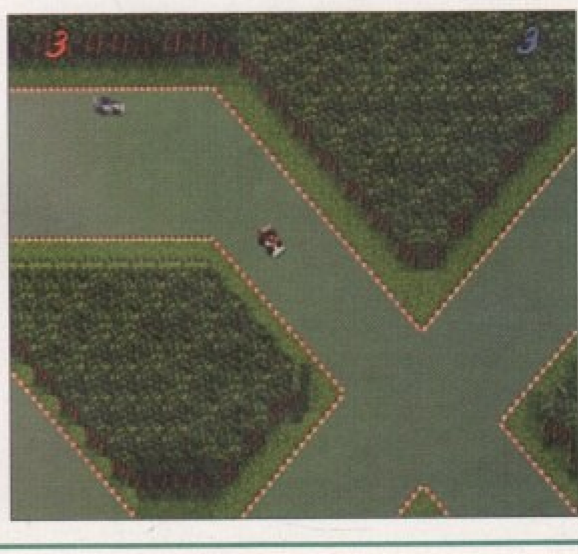
One or two players can participate in the action which takes place on a scrolling track around four times the screen size. Set a course record and you'll be able to enter your name and have it saved for posterity. And, erm, that's about it to be honest.

Still, decent graphics and a high standard of presentation throughout add considerable visual appeal. In the audio department there's nothing special to shout about, but what's there is inoffensive enough. It's perfectly playable and good fun with a friend, but in one player mode it is slightly lacking in variety. The track designs could do with a little more imagination to sustain interest.

Overall, Racing World is polished enough but is just missing that indefinable something to set it apart from the crowd. That said, this is certainly not a bad effort – in the world of PD racing games it might not make the podium, but it deserves to finish in the points.

Selecting a track in Racing World





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(Tel: 01392 493580)

Freestyle PD
108 Woodside Way, Short Heath, Willenhall, West Midlands WV12 5NH
(Tel: 01922 710985)

Mark McVickers
87 Braes View, Denny, Stirlingshire, Scotland FK6 5NG

Michael Pratt
10 Rivers Road, Yeovil, Somerset BA21 5RJ

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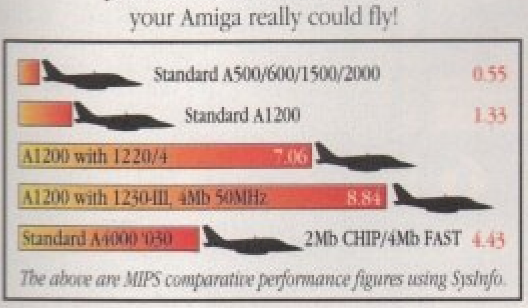
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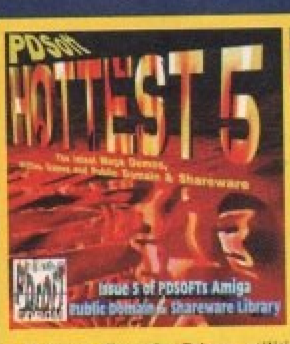
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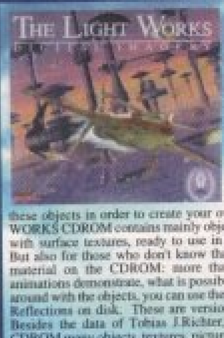
Contains 5000 text files fully readable on the CDROM. These files include info on asteroids, astronauts, NASA etc. Theres handy viewers to browse through the images on the disc and documents. Sysops get index files for rbbs, opus, pcboard, spitfire, maximus, & BBS software.

CD010 GOLD FISH VOLUME 1 FRED FISH £29.99

Fred Fish has been working to supply the Amiga community with high-quality, freely distributable software for the Amiga since the introduction in 1985. Contains the offical archive of the 1000 floppy library created by Fred Fish between January of 1986 to April 1994. See Gold fish 2 for the second in the series and coming soon.

CD077 DESKTOP VIDEO £14.99

Original textures & backgrounds in JPEG. Overscan over 200 colour anti-aliased fonts in sizes up to 200 points. 3d object data for Light-Wave / Imagine / Sculpt, over 150 objects in each format. Current utilities - Imagge Studio, ViewTek, PP Show, Main Actor, Persistance of Vision, HamLab, Fractint, Anim players, Titling & Morph utilities, object converters, & more.



CD141 THE LIGHT WORKS £39.99

Raytracing - a fascinating area of the computer graphics. Pictures from the computer, perfectly rendered fascinates people all over the world. A real artist of raytracing is Tobias J. Richter from Germany, whose detailed objects all who use them. Especially his space ships of famous science fiction films are used to demonstrate the capabilities of a raytracing program.

Until now it was difficult to accquire these objects in order to create your own scenes or animations. THE LIGHT WORKS CDROM contains mainly objects created by Tobias J. Richter, together with surface textures, ready to use in Cinema4D, Reflections and Imagine. But also for those who don't know that much about raytracing, there is some material on the CDROM: more than 100 rendered pictures and several animations demonstrate, what is possible with these objects. If you want to play around with the objects, you can use the demo versions of Maxon Cinema4D and Reflections on disk. These are versions with some functions disabled. Besides the data of Tobias J.Richter, you'll find on THE LIGHT WORKS CDROM many objects, textures, pictures and animations from the PD area. You can use these PD objects without problems in conjunction with the objects by Tobias J Richter, in order to create interesting scenes. You'll certainly find ideas for your own scenes within the huge amount of PD pictures and animations.

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CD007 17 BIT 1&2 £29.99

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PHASE4: 17 Bit have crunched every single new disk that has been added to their library of Public Domain aduring 1994 on to this single CDROM.

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The first real ultimate Amiga MultiMedia CDROM!, Megabytes of images, textures, sounds, animations, IFF pictures, GIFs, ... and FLICs. Includes a ... tool to take advanage of the PC ... format files (this is the first ... included on Amiga CDROM ... cdrom pack will keep anyone ... your computer screen for hours ...

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Compatible with all AMIGA's

The offical Amos PD Library is the largest source of Amos related source code and programs featuring Games, utilities, Samples, Pictures, Sprites, Music, Mega Mega etc all written with the language Amos.

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Contains 40 games for the Amiga from differing categories. Action, jump & Run, Card Games, Puzzles, Strategy Games. A whole range of entertainment awaits!. Gamers Delight will hold you captivated for hours and guaranties long lasting pleasure. All the games are commercial versions - NO PUBLIC DOMAIN & NO DEMOS!. Works with all CDTVs, Amigas or CD32.

CD109 GIGANTIC GAMES £19.99

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is a CD which can be used on various systems. all 507 mandel-brot-Pictures have various resolutions, (1140 x890, 1024x768, 640x480 and 64x48). They all use 256 colours. In addition to this the 20th most beautiful fractals are saved as true colour graphics in TIF format. Amiga, PC and Mac viewers etc are includes on the disc. ! New Release !

CD062 LSD TOOLS £17.99

Most PD Compilations contain the usual mix of games, utilities & other associated files.

CD099 LSD TOOLS 2 £19.99
Uses an Amiga Guide-based menu system that allows you to find the file yow want PDQ.

CD058 GOLD FISH VOLUME 2 FRED FISH £29.99

An excellent selection of the best software, anims, pictures, games & other material, released on freshfish CD's between Oct/93 and Nov/94, with most of the meterial updated to the latest available versions. All of the material is included in both arcived (BBS-ready) and unarchived (ready-to-run) forms.

CD042 WIERD SCIENCE CLIP ART £7.99

Its one of the most comprehensive collection of Clipart ever for the Amiga range of computers. Over 26,000 files, in B/W IFF bitmap, coloured IFF bitmap, Proclips, EPS, Pagesetter, Pagestream, IMG, Corel Draw and coloured brushes for DPaint. All ready to use and easyily accessible in subject directoies. ! Special Price !

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Contains Mega Demos, Games, Slideshows, Music, Mags, Demos, Anims, Rave Demos, Samples, & a complete Anims selection feturing Eric Schwarts, Large memory consuming anims + loads of 1 to 7Mb anims. Also AGA software like, Anims, demos, Mega Demos, Games, WB utils, Educational, Programming, Modules, Video Utils, IFF Pics, GRX, Demo Makers, Anim Utls, Hard & Disk utils etc.

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An Amiga PD/Shareware games compilation, Nearly 1,000 Games ready to run ... CD32, CDTV A570, and any ... SCSI CDROM. Includes Amiga ... Games 1-148 ready to run (for ... need for CD32/CDTV users) ... several hundread other games.

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Clip Art Professional GIF contains a huge collection of high resolution .GIF clip art image than can add a professional touch to any newsletter, leaflet or publication you create. 5,000 plus images have been selected from thousands of 256 colour scanned images of scantily clad babes, high performance super cars, exotic locations, etc. **Amiga Format " If you need a source of high-quality scanned images then look no further than this compilation** 84% AF



CD063 VISIONS is a collection of 500 great photos from the Preferred Stock photo archives. All images are ROYALTY-FREE & come in GIF 640x 480 & 800x600 resolutions. You can do anything you want with these photos as long as you don't publish them as a compilation of images on a CD. £24.99

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You'll see pictures of such classics as the P-51 Mustang, P-40 Warhawk, ... F-1xx series, including the F-100, the F-101, F-102, F-105 and F-106, the ... secret SR-71 Blackbird, ... Spyplanes, B-47s, B-52s, the B-... Hustler, the mighty Phantom ... and many others. You get ... images in GIF, TIFF, JPEG ... BMP formats for multi-... compatibility. Macintosh, MS-... and Amiga.

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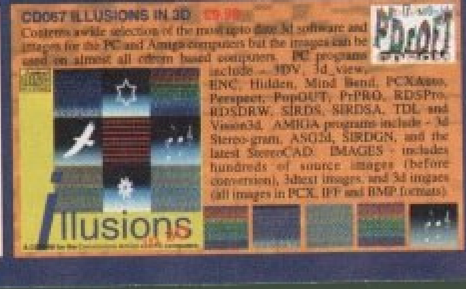
VISA

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Contents a wide selection of the most upto date 3d software and images for the PC and Amiga computers but the images can be used on almost all cdrom based computers. PC programs include - 3DV, 3d_view, ENC, Hidden, Mind Bend, PCXAuto, Perspect, PopOUT, PrPRO, RDSPro, RDSDRW, SIRDS, SIRDSA, TDL and Vision3d. AMIGA programs include - 3d Stereo-gram, ASG2d, SIRDGN, and the latest StereoCAD. IMAGES - includes hundreds of source images (before conversion), 3dtext images, and 3d images (all images in PCX, IFF and BMP formats)



CD019# CD32 NETWORK PACKAGE

CD019 £14.99 or CD019# £34.99 Cable & Disk.

The Network CD Sets up a link between a CDTV or CD32 and any other Amiga. The CD32 of CDTV act's as a CDROM DRIVE, allowing access to any of the above cdroms or other cds out for the amiga. It sets up a Workbench environment & disables the reset function, allow the CD to be changed and access to any other ISO9660. contains NComm, Twin, Term and PhotoCD Conversion, and loads of images etc.

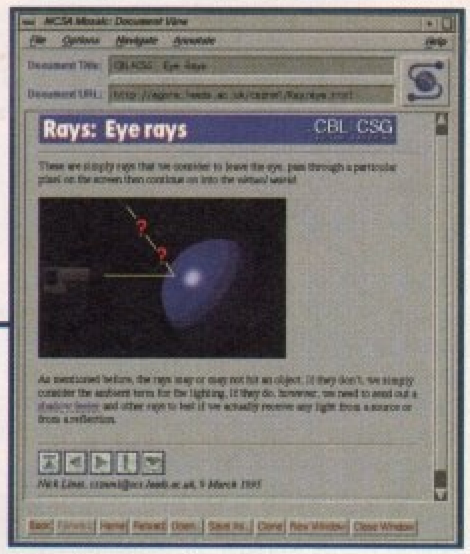


*Graphics Sensatsions

CD105 Do'nt BANG! your head against the wall in search of Imagine software get This! £19.99 The Graphics Sensation CDROM is a collection of the best Graphics tools, 24bit images, Animations like the famous JUMPGATE (5.7Mb), The ... 3d helicopter and the Space Animation by ... Rees. A huge colection for IMAGINE Users will take you years to look through, ... including: Anatomy, Animals, Atributes, ... Bathroom, Botany, Building, Clocks, Computer, earth, Fonts, Food, Furnitur, gears, Kitchens, Lamps, Land, Logos, music, Outlet, Phones, Ships, Space, Sports, Text, Toys, Tree_Kit, ... Video & Weapons. LIGHTWAVE Users are treated to subjects like ... imagine section, Textures, Tools, Toys, Tutorial, vehicles, Video, ... & Weapons. 240 ADOBE TYPE 1 FONTS, and a large Textures section ...

Nick Lines delves deeper in to the Internet and digs out a method of getting your text published on the World Wide Web

Mind your language



The original NCSA for X, upon which AMosiac is based

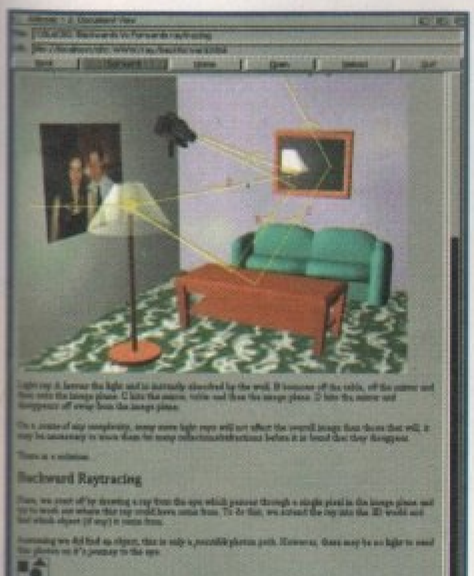
By now, you'd have had to have been completely cut off from the world not to have noticed that the World Wide Web (hereon known as the Web) has been growing at a rate bigger than exponential. However, you may still be wondering along the lines of "Yes, but how do I get involved and publish on the Web?" in which case this article should answer your question.

The World Wide Web uses a standard language called HTML to transfer its hypertext data around the net – this is short for Hyper Text Markup Language. HTML is a subset of SGML (that's Standard General Markup Language) and was brought into being by CERN, where they also play with particle accelerators and other expensive toys.

The Web is basically a huge example of client/server computing: Multiple clients can be furnished by one server. There are many different clients that can be used to interpret the data sent to them by the server, and the Amiga has an excellent one. The most popular client has to be Mosaic, which has already been described as the Internet's killer application and with good reason – the use of the Web rose by 300,000 per cent in 1993 and is still rising.

AMosaic is a port from the NCSA Mosaic package, originally found in the *NIX world with X Window systems. The beauty of this package is that it will run with practically any protocol stack (such as AmiTCP or DNet) seamlessly, meaning you can use AMosaic on an ethernet network or via your dialup SLIP/PPP link from a service provider.

On the other side of things, publishing Web data means you need a server to listen for requests for pages to be sent. Again, NCSA's HTTPdaemon has been ported across to the Amiga, but before you start rushing for your copy of httpd, decide if you really want your Amiga constantly connected – just imagine the phone bills!



The Amiga port of NCSA mosiac and good it is too!

The only current way to get Web space is to pay a provider to store your data for you and this is slowly coming down in cost. Alternatively, if you're at an academic establishment you may just be able to persuade the powers that be to attach your pages to the WWW.

HTML is simply standard ASCII text, as produced by any half-decent text editor, with embedded commands (called tags) that allow all sorts of fancy things to happen to your text, such as include graphics, change the font, embolden things and link to other resources on the Web when viewed through a Web browser.

WORDS AND PICTURES

To edit your HTML, you'll need a text editor. ED on your workbench disks will do, though my favourite is VIM which can be found on Aminet, like all the files listed below. Graphics can be included in your documents too, and for best compatibility these really should be in GIF format. A conversion program to produce GIF files is therefore essential. There are plenty out there to do this but for shareware, I'd recommend ImageStudio as found on Aminet. You'll also need the GIF datatype: As AMosaic uses datatypes you'll need OS 3.0 or better to get inlined images, too. Jpeg files are common as well, so you'll need the Jpeg datatype and some IFF to Jpeg converters should you want to produce your own.

A nice tool to aid HTML composition is called HTML-Heaven from Paul Kolenbrander. This is a program which interfaces to any ARexx compatible editor (like ED) and allows tag entry to be replaced with a single click of the mouse. Finally, you'll need AMosaic along with MUI 2 or above.

Now you're tooled up, let's take a peek at what HTML is. As mentioned previously, WWW pages are made up of HTML, which is just ASCII text with embedded commands called tags. Tags for HTML are embedded in between less than and greater than signs (<>>) and control the appearance of the document on screen.

> The best way to develop a style is to think about how you will lay things out and then start writing. This keeps a feel to your Web site which should be acceptable if you've thought about it

Some require switching off after their usefulness is finished, for example the title of a document is set by <>TITLE> and the end of the title is designated by <>/TITLE>.

All Web pages should be enclosed in an outer tag showing that they're HTML. For this, the <>HTML> tag is used as the first element of your document, with <>/HTML> at the end. On some browsers this is not necessary, but for future compatibility it really should be included.

Web pages currently have two sections within them, these being the header and body section. The header of your page tells your browser about the title of the document as it appears in document title (surprisingly) and other data such as the absolute path for this document. This is enclosed in <>HEAD> and <>/HEAD> tags. Inside the head, you'll want to give your document a title, an example being <>TITLE>Home brewing for the hard of thinking<>/TITLE>.

Next comes the body of the text, and this is where it all happens. The <>BODY> and <>/BODY> tags should be used to define the start and end. Inside here all text is freeform, which means that entries such as tabs, multiple spaces and carriage returns are translated into a single space, which can be useful most of the time but a ➤

Jargon box

NCSA – America's National Centre for Supercomputing Applications, where Mosaic was developed.

CGI – Common gateway interface. An interface allowing HTML pages to call executable scripts and return the results to the browser.

URL – Uniform Resource Location. A way of accessing a file that tells the browser what method of contact to try and where to find the file once connected to the right server.

pain for some things. To get around this, a paragraph break is inserted into the text using <>P>. This is an HTML tag that does not have to be turned off as it merely specifies a break, not a paragraph. Similarly, the <>BR> tag forces a line break in your text but does not insert a blank line like <>P> does.

For text formatting, HTML doesn't allow you to specify explicitly the name of the font and size of font to use, but has a range of predefined styles. For headings there are five levels of strength, ranging from <>H1> to <>H5>, all of which must be turned off with <>/Hn> when finished.

Bold and Italicised text are also available in more than one way. HTML defines logical styles as well as physical, so for bold text either <>STRONG> or <>B> can be used. Italics has the same strangeness, with either <>CITE> or <>I> being used.

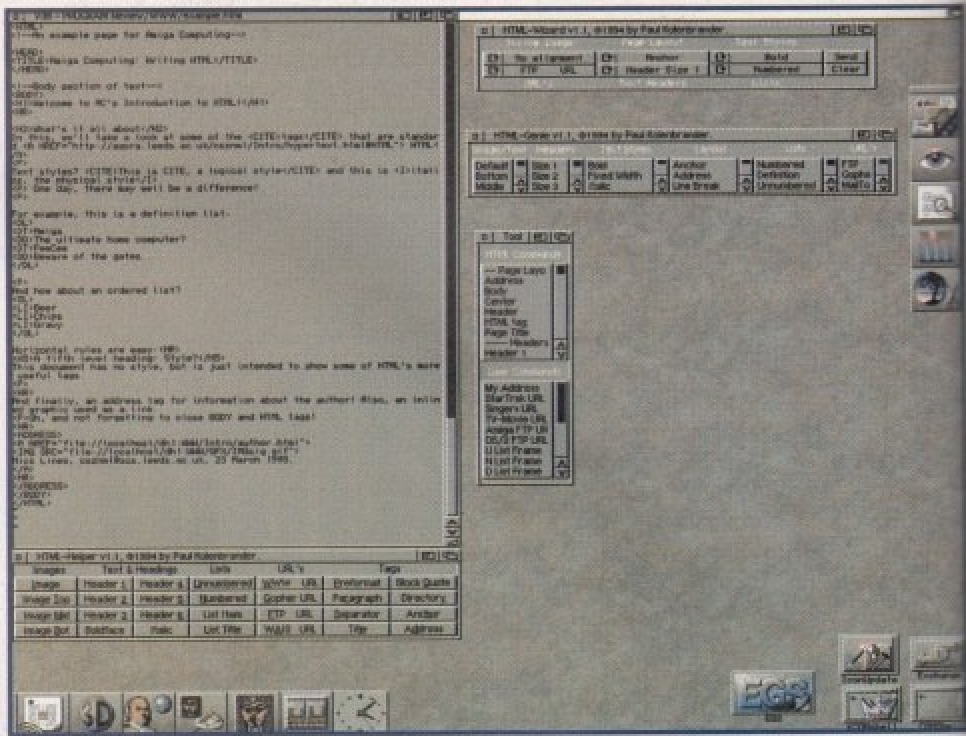
To insert an in-line image into your text, the tag <>IMG n> is used, with n being either one or many sub-tags. The most important one is SRC="filename" where filename is the name of the file to use. This brings up the important topic of relative filenames: To go back a directory, you *must* use the *NIX '../' otherwise some systems will interpret '/' as the equivalent of ':' on the Amiga – i.e. the root directory. For HTML, the directory separator remains '/', though.

DEFINING

The other two important tags that can be defined inside <>IMG> are ALIGN=pos to align the text following the image with either the top, middle or bottom of the picture (with pos being TOP, MIDDLE or BOTTOM), and ALT="text", where text is the text that will appear on a non-graphical Web browser, such as Lynx. Note that the inline graphics files have to be in GIF format to be decoded by all viewers.

Mosaic supports various formats for lists, too. The most common are the ordered, unordered, and definition list. Ordered lists are started with the <>OL> tag, have the entries preceded by <>LI> (with no <>/LI> tag) and the list is finished with <>/OL>. An ordered list is a list that has a number preceding all list entries.

Unordered lists are exactly the same, with <>UL> and <>/UL> replacing the



***HTMLheaven:* Support programs for HTML authoring**

<>OL> and <>/OL> along with bullets replacing the numbers. Definition lists allow a definition title followed by a description of that title to be listed. <>DL> starts the process off, <>DT> defines the definition title and <>DD> describes the definition linked to that title. <>/DL> turns off the list and as before, there is no need to use <>/DT> or <>/DD> at the end of the titles or definitions.

The anchor tag allows points inside a document to be labelled and for links to other URLs (uniform resource locations) to be made. To define a label inside a document, <>A NAME="name"> is used, and I'll leave you to guess what replaces name.

The interesting bit is making links: This is done by <>A HREF="url">, where URL is either a full URL (such as http://agora.leeds.ac.uk/csznml/Intro/author.html"> or relative, such as ../beer.html. The elements then make the link follow, and the link command is closed with <>/A>.

A URL does not have to be an HTML document – it could be a picture, sound file, postscript file, an FTP link, GOPHER link or many more. There are many, many more tags but these are the ones that are used the most.

So far, so good. You know what makes up HTML, but what makes good HTML? Despite the fact that HTML tries to set a style for things such as paragraph formatting, it is very easy to make ugly HTML documents.

The best way to develop a style is to think about how you will lay things out and then start writing. This keeps a feel to your Web site which should be acceptable if you've thought about it. Always give some sort of reference for your documents. Every document should really be signed using the <>ADDRESS> tag with your name, e-mail address and the last modification date inside it – then people know who to praise or blame.

A problem when developing on the Amiga is file name capitalisation. While the Amiga will take a file originally called 'AcHomepage.html' and access it as 'acHomePage.HTML', *NIX will not. This is not an issue if using the Amiga to serve information, but as most people will be relying on a service provider who probably installs the pages on a *nix box, it suddenly becomes one. In short, check all capitalisations or simply use lower case for file names and upper case for directories (or whatever takes your fancy – the point is, stick to it).

So then, you now want to publish these pages you've written on your trusty Amiga, checked with AMosaic and found to be good. Discounting the dedicated, constantly dialed-up connection as far too expensive, what else is there?

PROVIDERS

The two most common providers who allow WWW storage are Demon, who will soon be giving subscribers limited WWW space free, and Cityscape, who give subscribers 500Kb free. Demon charge £25 per month for up to 5Mb of space, whereas Cityscape charge what appears to be a more reasonable £60 per Mb for a year's storage.

You now know how and why to write good HTML and how to get your minor works of art on the net. If you can justify any cost involved, then go to it! There's plenty more you can do that hasn't been covered here, such as forms and scripts, or running executables using the cgi. When AMosaic 1.3 is available and supports FORMS, perhaps it'll be worth another article.

References on the Web

To start looking for information on writing good HTML, try the following URLs:

A Beginner's Guide to HTML – http://www.ncsa.uiuc.edu/demoweb/html-primer.html
HTML Design Notebook – http://www.hal.com/~connolly/drafts/html-design.html
Style Guide for Online Hypertext – http://www.w3.org/hypertext/WWW/Provider/Style/Overview.html
HyperText Markup Language (HTML): Working and Background Materials – http://www.w3.org/hypertext/WWW/MarkUp/MarkUp.html

These are just starting points! There are plenty of links to take from them but be warned, you could be there for a long time.

Useful addresses

Cityscape – Tel: 01223 566950, e-mail sales@cityscape.co.uk, URL http://www.cityscape.co.uk/
Demon – Tel: 0181-371 1234, e-mail sales@demon.co.uk, URL http://www.demon.co.uk/

Duelling

As CD-ROM grows in popularity, the price of ultra-speedy drives is plummeting faster than a dead skydiver. Gareth Lofthouse tests six of the best in the ultimate SCSI showdown

When history looks back on the '90s, it seems likely that one of the key themes of the decade will be the revolution in information. Driven by technological advancements and greater public access to computers, the impact of this change is being felt by almost everyone.

Of course, the burgeoning Internet has justifiably grabbed the limelight when it's come to discussions about the information superhighway. An equally important development in bringing information into the living room, however, has been the ability to store vast resources of data on portable media. In this respect, CD-ROM is hard to beat. Amiga users can already benefit from an ever-growing supply of utility, picture and sound collections, with each CD capable of holding the equivalent of over 700 floppy disks. With the potential for impressive multimedia applications that this storage capacity provides, any self-respecting Amiga owner should not exclude themselves from this digital resource.

Thankfully, there are two pieces of good news. The first is that Hi-Soft's Squirrel SCSI device (reviewed in last month's issue) makes all those flash CD drives aimed at PCs and Macs available for the average Amiga owner. The second bit of good news is that *Amiga Computing* has decided to give you the run down on the latest, fastest drives you can get for your money. Whether you want dual, quad or a multichanger, the choice is yours.

Pioneer DRM-604X

If you just have to have the best of all worlds, the Pioneer 604 featuring 'Quadraspin' technology is bound to catch your eye. An ultra-fast quad speed drive and six disc multi-changer rolled into one, this is arguably the ultimate peripheral your Amiga could hope to be graced with.

Surprisingly, the method of loading the discs seems less advanced compared to the one used by the Nakamichi. Discs are placed into a cartridge or magazine *upside down*, a peculiarity that is easily forgotten at first. Furthermore, if you need to move the drive the magazine must be taken out otherwise there's a risk of damaging the optical head.



Otherwise, however, the 604 was peerless within the group. A transfer rate of 614 kilobytes a second can radically cut down the time it takes to run searches, which could be beneficial if it was set up for users of a BBS.

Using the 604 as part of a SCSI chain could hardly be simpler thanks to the inclusion of switchable active termination. Basically, this means that if you want the chain to have the Pioneer at the end, termination should be switched on, but otherwise it should be switched off. This may not sound like much, but it really could save some people a lot of messing, and the push-button switch to alter the unit ID number should prove equally convenient.

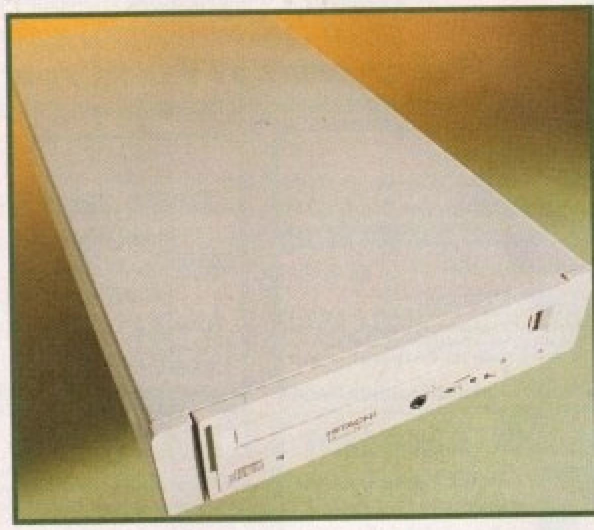
Naturally, this speed and flexibility is going to cost a fair bit extra, but the 604's asking price still seems very steep in comparison to its rivals.

It's a remarkable piece of equipment, but only a Sysop with heavy CD access needs should even consider buying it.

The bottom line

Product: Pioneer 604X
Price: £1280
Supplier: Pioneer
Tel: 01753 789789

Ease of use	7
Implementation	9
Value for money	5
Overall	7



Hitachi CDR-1950S

It would be natural to expect that with a big name like Hitachi we'd be reviewing another superfast, state of the art piece of technology. Strangely, however, when we asked for a quad-speed drive to review we were told that Hitachi have still not developed any.

Instead, they sent us a dual speeder that looked dated when we first saw it nine months ago and looks even more so now. For a start the disc is loaded in a caddy, a fact which most users will find irritating in comparison with the more modern tray loader.

It's well made but consumes almost as much deskspace as the Pioneer multi-changer, which is not too impressive for a single disc drive. What's more, having to change the SCSI ID with little dip switches is a pain compared to the easy methods on more modern units.

In fairness, having had one in the office for the best part of a year it's the only drive we've actually put to a long-term rough and tumble office test, and we've never had the slightest problem as far as reliability is concerned.

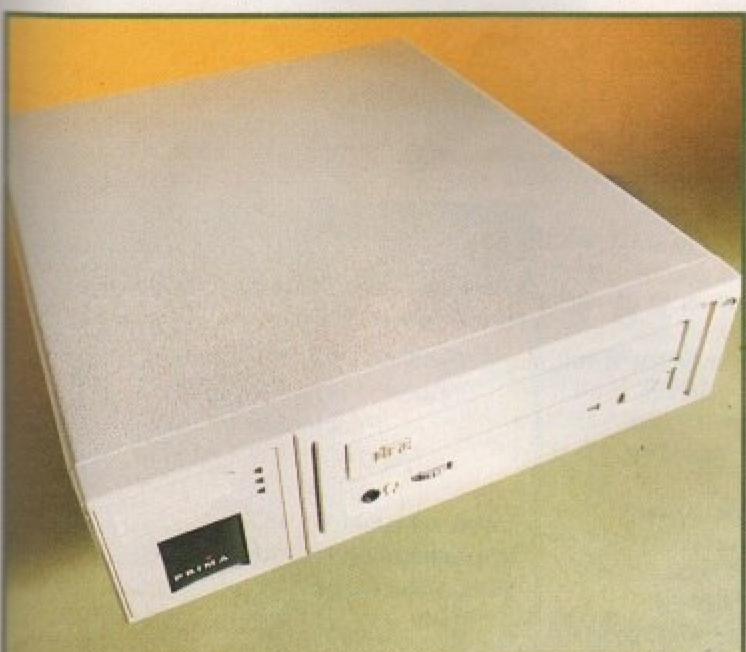
Unfortunately, it's not worth more than half the RRP listed below, so unless you see one going cheap, the best thing you can do is steer clear. These are competitive days, and this unit isn't even in the running.

The bottom line

Product: CDR 1950S
Price: £320
Supplier: Hitachi
Tel: 0181-848 8787

Ease of use	8
Implementation	6
Value for money	4
Overall	5

drives



Prima CD X4

Prima Technologies may be a new name to many Amiga enthusiasts, but as the sister company of First Computer Centre, those long-time supporters of the Amiga, their products should be of instant appeal to anyone concerned about getting Amiga technical support.

In appearance the drive is fairly broad, but no more so than any of the other quads I've seen aimed at the Amiga. The build quality seems very sturdy thanks to the metal casing, and the fact that it contains a Toshiba mechanism is reassuring when it comes to thinking about reliability.

With a tray-loading mechanism, audio jacks, SCSI throughports and a fairly convenient unit ID selector, the drive has all the little extras that are becoming the expected standard with new drives.

The benefits of higher speed CD-ROM for the Amiga are currently limited to a few areas. We found data could be pulled off more quickly with drives like the Prima, and searching for data was a much more rapid process.

Quad speed does offer increased potential for multimedia applications because, for example, it will spool animations directly from CD at a much faster rate. With products where these features would be useful yet to make an appearance on the Amiga market, however, this is a consideration for the future rather than the present.

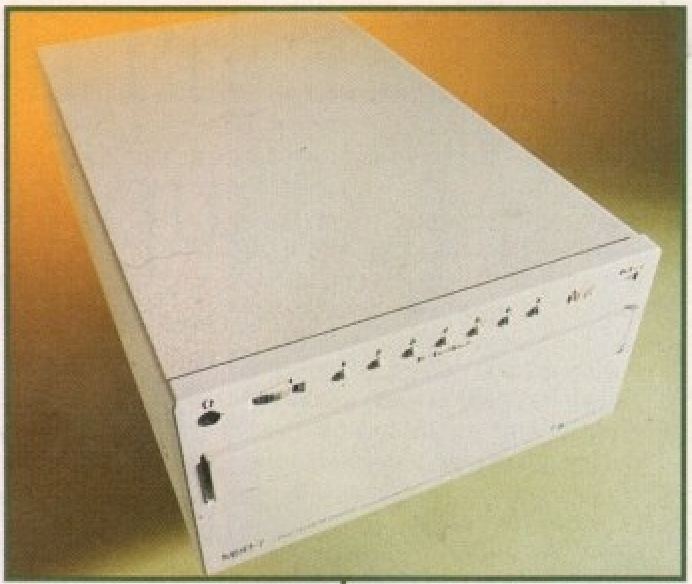
The Prima X4 does make a good case for spending a bit extra to ensure you're not left behind, however, thanks to the fact that it includes the now famous Squirrel interface plus a shareware CD all for a very reasonable price. The benefits of the Squirrel were covered in the May issue, but the disc is also a worthwhile addition which received 8/10 in a round-up a few months ago.

For review purposes we assessed the quad speed drive, but there are also dual and triple-speed versions available if spending the extra amount is not worthwhile. Prima offers good value and is the best range for those who want a drive mechanism built by the most reputable CD manufacturers, Pioneer and Toshiba.

The bottom line

Product: Prima X4
Price: £345.99
Supplier: First Computer Centre
Tel: 0113 231944

Ease of use	**8**
Implementation	**9**
Value for money	**9**
Overall	**9**



Nakamichi MBR-7

A rather special product from Almathera, this CD drive is the only multi-changer on offer from the usual Amiga distributors as far as we are aware. As the 'How to' box explains on the next page, you should be able to use any SCSI multi-changer, but since setting them up can be tricky, this product has an immediate advantage because buyers can get Amiga technical help if necessary. By contrast, ask most people about using the Pioneer 604 on the Amiga and they'll probably tell you (wrongly) that it's just for the PC.

SEVENTH HEAVEN

Since the MBR-7 can hold seven CDs, it's only natural that the casing is considerably more bulky than with the usual drive. Despite this, it remains highly manageable and won't take up too much of your deskspace.

The method of loading the CDs is rather a clever party trick on behalf of the drive's makers because they've managed to dispense with caddies or magazines. Each of the seven buttons on the front of the unit will produce a different tray when pressed.

The upside of this is that it is the tidiest method I've seen, making it as painless as using a normal drive. On the downside, however, we found that changing a batch of disks was far quicker with a magazine than having to eject each tray one at a time.

Boasting this facility alongside its perfectly adequate dual speed, the MBR-7 is an affordable option that will raise a lot of interest among Amiga enthusiasts. Be warned, however, that in reality most users are probably better off with a standard single drive.

That's because if it's loaded up fully with disks there will be a lengthy delay when you boot your Amiga while the seven devices get mounted. What's more, there is a delay of a few seconds when switching between discs, although this is probably quicker than making a manual change.

On the other hand, Bulletin Board Sysops could find the MBR-7 to be a cheap but invaluable product that can hold huge quantities of data for their BBS users to access. There's certainly no doubt that this model is extremely competitively priced, and for the right person it could be a definite winner.

The bottom line

Product: Nakamichi MBR-7
Price: £345
Supplier: Almathera
Tel: 0181-687 0040

Ease of use	**7**
Implementation	**8**
Value for money	**9**
Overall	**8**

Setting up a Multichanger

Those who love gadgets or are particularly lazy will be pleased to hear that they can use any of the multichanger CD drives on the market provided they are SCSI compatible.

Setting them up is not too difficult, but it can be more confusing than fitting the ordinary drive because you have to worry about logical ID numbers as well as the physical ID number of the drive.

What am I on about? Well, first of all your CD drive needs a separate identity number from any other device connected on the SCSI chain – otherwise it won't be able to communicate with the Amiga. Instructions supplied with your drive will tell you how to adjust its physical ID. Let's say for the sake of an example you've set it to three.

However, a multichanger also needs logical ID numbers for every CD it can use. For the sake of what follows, let's assume you have a seven disk multichanger – you will, in this case, need logical IDs 0-6. Incidentally, the number of logical devices does not affect the number of units you can have on the chain, so you can still use a multichanger with six other SCSI products.

To create the required number of logical IDs, go into your Devs drawer and select the DOS drivers icon. Call up the information gadget on the CD0 icon and change the device name to that of your SCSI controller (e.g. squirrelscsi.device).

Then for the unit's identity number you will have to enter two figures, the first being the logical ID and the second being the physical ID. If your drive's physical ID is 3, for example, the CD0 driver's ID should be set at 03.

You then have to set your driver up for all the other disks the drive can use. To do this, copy and rename CD0 as CD1,CD2 etc.

Call up the information for each icon and enter the correct device name and physical/ logical ID numbers. In this example, CD1 should have the ID 13, and you should repeat the process for each of the seven logical drives.

If you've followed these steps your multichanger should work perfectly, but we all know there can be added complications.

If you're not technically confident, the best advice is probably to buy from distributors with Amiga expertise so they can advise you if a difficulty crops up.

> Quad speed really has become widely affordable with a number of packages including a Squirrel SCSI for added appeal

Power X2



Power's dual-speed drive was given the full treatment in the April issue, but for those who missed our evaluation here's a recap. Unusually for Power, this is by far the smallest drive we had in for review, a factor that becomes important if you want to use it with six other SCSI units.

All the usual features are there except a method of externally altering the SCSI ID, an oversight that now compares badly with the Prima dual speed. Otherwise, the bundle allows for CD32 emulation as well as the use of non-bootable discs, and it is the only drive to allow CD audio mixing thanks to the in/out ports.

Unfortunately, when it was reviewed we complained that the documentation supplied was inadequate and since, unlike with the Quad, there's no Squirrel manual supplied as yet, this compares badly with the Prima dual speed. Nevertheless, it's an excellent piece of hardware so if you're confident about SCSI or you don't mind ringing Power for help, it's still highly recommended.

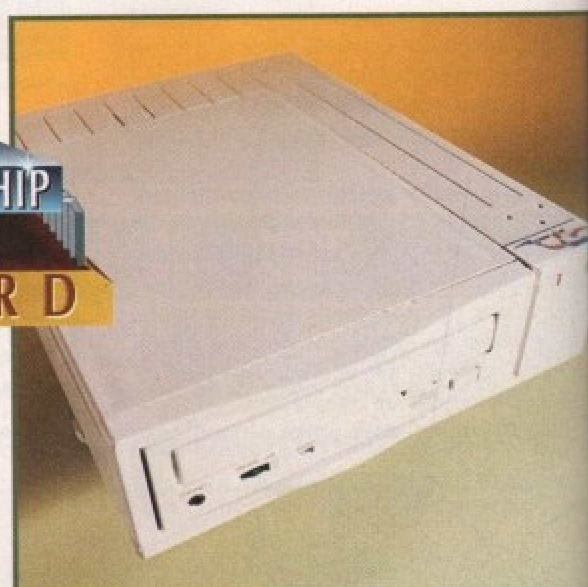
The bottom line

Product: Power X2
Supplier: Power Computing
Price: £199
Tel: 01234 273000

Ease of use	**8**
Implementation	**8**
Value for money	**10**
Overall	**8.5**

Power X4

AMIGA BLUE CHIP AWARD



As usual in the Amiga market, the competition between the contenders has been very tough when it comes to good value. Quad speed really has become widely affordable with a number of packages including a Squirrel SCSI for added appeal.

Quite how they do it we don't know, but once again Power have entered the arena with a product that just pips the opposition when it comes to the bargain star buy. The only external quad we've seen going for under £300, this unit also includes a PCMCIA SCSI device and a few CD-relevant PD programs.

The drive isn't the smartest of the bunch – its casing, for example, is plastic and not so flush fitting as on the Prima. However, it feels tough enough to survive the test of time and the tray loading mechanism is as efficient as you could wish for.The necessary ports are all there, and again there's the convenient pushbutton ID selector. The drive can claim a slight design advantage over rivals because of its cooling fan; though we've not experienced overheating problems with any of the drives it's good to have this included just as a precaution.

Otherwise it does the job as swiftly as anything else we've tried and like the other Squirrel/drive bundles, it too has the advantage of CD32 emulation. Furthermore, the fact that the full Squirrel manual has been included comes as something of a relief, since without it beginners could run into some confusing problems.

It's hard to believe that you can get a quad speed drive at this price, but if it works who's complaining. Power can always be counted on to try and undercut its rivals, and while their competitors must hate it the consumers can benefit from yet another bargain quality product.

The bottom line

Product: Power Quad CD
Supplier: Power Computing
Price: £299
Tel: 01234 273000

Ease of use	**8**
Implementation	**9**
Value for money	**10**
Overall	**9**

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Take a signal from a TV with SCART output

Use a satellite receiver as your output device.

Grab TV or video pictures from your VCR's video output

STAGE 1...

Select any video source with composite output. This could be your camcorder, TV with SCART output, satellite receiver, domestic VCR/player or standard TV signal passing through your VCR/player... the choice is yours.

STAGE 2...

Using the ProGrab™ software, select an image you wish to capture in the on screen preview window (because the hardware grabs a frame in real time, there's no need for a still frame facility on the source device) and, grab! ProGrab™ even includes a Teletext viewing/capturing facility from either TV or satellite source devices, Once grabbed, simply download the image to your Amiga for full screen viewing.

STAGE 3...

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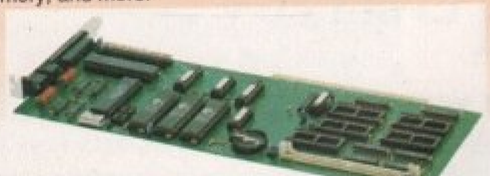
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The Macintosh emulation module is a 'generic' Macintosh with the speed of the emulation depending on the processor your Amiga is using. An A3000 is equivalent to a MAC IIci. An A4000 is equivalent to a Quadra 900. Support for up to 16 colours is provided for non-AGA machines. A4000 owners can use a full 256 colours! Up to 24 bit (16 million+) colours is supported using third party video boards. Built in multiple file transfer allows for quick and easy transfers between the Amiga and MAC emulation. Support for AmigaDOS devices, Scanners, CD ROM, MIDI, SyQuest removable drives, Printers, Modems etc. Full stereo sound is supported too! Requires Macintosh ROMs (not supplied).

The possibilities with a multi-platform machine are endless. Now you can take advantage of a whole host of great software previously unavailable, and use them to compliment each other. By upgrading your Amiga (extra memory, faster processor, etc) you instantly upgrade your emulation too! All major graphics cards are supported for improved video performance such as: CyberGraphics, Picasso II, EGS-Spectrum, Vivid-24, Rainbow II, Rainbow III, Visiona Paint, Merlin, Retina, Retina Z3, Piccolo, PiccoloSD64, EGS110/24, and OpalVision!

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EMPLANT DELUXE	£349.95
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PICASSO II

PICASSO II is the leading graphics card on the Amiga. It offers unrivalled support and retargetable graphics on any Zorro based Amiga. Workbench emulation offers 256 colours, even on non-AGA machines (Requires OS3.1) at resolutions up to 1600x1280. Supports HiColour (16 bit) and True Colour (24 bit) graphics - 16 million colours!



There is no longer a Chip RAM limitation and screen configuration is provided through PicassoMode, which allows the creation of custom screens quickly and simply.

PABLO is the new Video Encoder option for *Picasso II*, expanding it with two additional video ports, one standard Composite Sync Signal, and one S-VHS (Y-C) compatible port. All PAL compatible video devices can be plugged into Pablo, such as a colour TV or a video recorder. Pablo has 15KHz overload protection and is supplied with cables/adapters, Animation examples and a 24 bit animation player.

PICASSO II 2MB	£299.95
PABLO VIDEO ENCODER	£129.95

OS 3.1



Many of the latest software requires the latest operating system. Now you can upgrade to KickStart 3.1 for virtually any Amiga. Non-AGA machines can deliver a 256 colour Workbench with OS3.1 and Picasso II.

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Please specify machine. Also note that revision 3-5 motherboards require linking to be added. We strongly recommend that a professional computer repair/service company undertake fitting. We cannot exchange any damaged or incorrectly fitted components.

ARIADNE

Ever wanted to set up a network but been afraid of the complexity involved? Now there is a simple but effective solution for any Zorro based Amiga. In addition, Ariadne has two extra parallel ports and includes Commodores industry standard software solution ENVOY.
Ariadne offers 10Base-2 (Thin ethernet, coax cable) and 10Base-T (Twisted pair, western jacket), Socket for a boot ROM, SANA-II compatible driver for ethernet and parallel port, 32Kb cache to support the CPU and full manuals.

You can hook up additional Amiga`s to the parallel ports with Liana.

ARIADNE	£199.95

LIANA

Liana is the ideal solution for a quick, easy yet efficient connection between two Amiga`s. Simply plug the special cable into the parallel port, install the software and you are ready to go. Now you can share hard drives etc. without on a small budget. The software supplied is ENVOY.

LIANA	£59.95

PICCOLO SD64

The Piccolo SD64 graphics board is a state of the art Zorro II/III (auto-sensing) graphics card with a built in Amiga video pass-through and expansion port for forthcoming modules (such as video encoder).
Using the latest 64 bit Alpine graphics processor, 64 bit blitter and fast Zorro III interface, incredible 24-bit speeds are achieved.
Piccolo SD64 comes with the latest EGS system and 24-bit paint package as well as loaders/savers for many common packages and a slideshow program. A full Workbench emulation is also part of the package.
The board is available as a 2Mb or 4Mb system, with no chip RAM limitations.
The maximum pixel clock is 110 MHz and user definable resolutions to 1600x1280 are achievable.
The 2Mb board can display a maximum of 800x600 in full 24 bit colour, whilst the 2Mb board can display 1024x768 (interlace).

PICCOLO SD64 2Mb	£299.95
PICCOLO SD64 4Mb	*£349.95*

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CyberStorm is a fully modular system offering huge increases in power and expansion capabilities. This design allows processor upgrades from the base 40MHz 040 system to the world beating 50MHz 060! With additional upgrades such as the SCSI-II and the I/O module, CyberStorm offers unequalled possibilities.
The CyberStorm carrier board inserts into the 200 pin Amiga fast slot, and has ports for the CPU, Memory and I/O modules. The CPU module is prepared for clock speeds to 80MHz, with active cooling and an extra expansion port for future modules (ie DSP board). The CyberStorm memory board can carry 4 SIMMs using standard 72 pin modules, single or double sided and either 4,8,16,or 32Mb (Max 128Mb). Data transmission of >50Mb/sec is achieved. The CyberStorm I/O module consists of a Fast SCSI-II interface with up to 7Mb/s Asynchronous, 10Mb/s Synchronous transfers and Active bus terminations, 10Mbit/s Ethernet controller (10BaseT) with SANA driver and BNC/DSub 15 connectors and high speed 2MBaud RS232 Serial interface. The CyberStorm SCSI module has the same specification as the SCSI interface on the I/O module.

CyberStorm 040 40 MHz No proc.	£449.95
CyberStorm 040 40 MHz	£729.95
CyberStorm 060 50 MHz	£899.95
CyberStorm Z3 SCSI module	£149.95
CyberStorm I/O module	£349.95
CyberStorm upgrade 040 to 060	£399.95
CyberVision 2Mb	£299.95
CyberVision 4Mb	£369.95

The CyberVision64 graphics card comprises of a 64 bit graphics processor and Blitter with 32 bit Zorro III bus interface. It is available in 2Mb or 4Mb versions (using common memory modules), offering up to 1600x1200 interlaced, 1280x1024 non-interlaced and 135MHz video bandwidth. Planar-to-Chunky pixel conversion is performed by on board hardware, some 6-8 faster than typical software solutions and accelerating Workbench emulation. Support for draggable and virtual screens, expandable bus for future cards (video, JPEG, MPEG..) and Amiga video pass-through.

*The CyberStorm 060 and CyberVision64 should be available by the end of March. We have back-ordered - Reserve your unit **NOW!***



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Snap, crackle and map?

Frank Nord clips, bumps and colours with SnapMaps

So what exactly are SnapMaps? To be blunt about it, SnapMaps are probably the finest bitmapped textures for 3D objects ever released on the Amiga (I can't comment for other platforms). I've seen some good texture collections in my time, but SnapMaps really does take the proverbial Rich Tea.

The reason for this is simply that unlike most other bitmapped textures, SnapMaps aren't just limited to providing colour information, but also bump-mapping and transparency mapping, otherwise known as clip mapping. But wait – there is a discernible difference between transparency and clip mapping in most 3D programs, this being that transparency mapping doesn't work properly with shadows or other surface attributes like glossiness.

So each SnapMap, be it brick, a chain link fence or a fern frond, consists of not one but several maps. First and foremost, of course, is the colour map, secondly and almost as important is the clip or transparency map, and finally there is the bump or altitude map. These three combine to make the most realistic-looking surfaces outside of a photograph, as can be seen from the images on this page. The one of the foliage took somewhere in the region of an hour and a half on my A3000T at 640 x 480 with low anti-aliasing, and the laundry basket took nearly two and three quarter hours with the same settings. Phew!

The installation process for these textures is a simple matter of double-clicking the install icon and the familiar Commodore Installer program appears. SnapMaps gets its own assign: and can be put anywhere. The only problem with the installation is that it insists on putting the textures inside a drawer in SnapMaps: called either foliage or materials, depending on which set you are installing.

This might seem like a nice gesture on the Anti Gravity Workshop's part to save you confusion as to which set the individual textures belong to, but come on guys, if you are going to do that, make sure the example scenes reflect it so I don't have to keep replacing textures that cannot be found. To save you having to render each texture blind, there are example images in Jpeg format in the previews drawers of each texture set. This is definitely a good idea as some of the textures, by their nature, will take a long time to render.

The manual that comes with either set of textures is good. It contains details about what the various types of maps are, as well as tutorials for individual rendering programs.

The Imagine tutorial explains what you have to do to get around Imagine's shortcomings when it comes to applying bitmap textures to objects. There is also a section about creating realistic-looking cloth, and suggestions for other uses for SnapMaps.



See the pretty flowers I made earlier

What no clips?

Imagine might be the modeller of preference for a lot of people, it also has some great algorithmic textures written for it (viz Essence by Steve Worley, coming to a copy of Lightwave near you soon), but when it comes to clip mapping, you can forget it in version 2.

The closest Imagine can get to it is filter mapping which just makes your objects look like they have see-through patches on them, and puts specular highlight on these 'holes' as though they were solid. The holes don't let light through either, so you won't get shadows with holes in them. There are other problems such as tile wrapping a sphere and seaming effects, but these are all down to Imagine, and have nothing to do with SnapMaps.



Dirty laundry basket film noir. You ain't gonna take me alive copper!

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

SnapMaps Building Materials and Fabrics

10 Mb Hard drive space	6 Mb RAM	18 Mb RAM or above	68030+ 68040, 68060

SnapMaps Fields and Foliage

6 Mb Hard drive space	6 Mb RAM	18 Mb RAM or above	68030+ 68040, 68060

The bottom line

Product: SnapMaps Building Materials and Fabrics & SnapMaps Fields and Foliage
Supplier: AntiGravity Workshop
Tel: 0101 310 393 6650
Price: $129.95 each or $240 for the pair.

Ease of use	8
Implementation	9
Value for money	8
Overall	9



As we can see, A is a simple colour map, B is a transparency map – note that the shadow is still the shape of the object, not the letter – and C is a clip map with perfect shadows

Conclusion

SnapMaps are without doubt the finest repeating bitmapped textures I have ever used with either Imagine or Lightwave, and at the price AntiGravity Workshop are asking, they represent extremely good value for money for professional users of any rendering package.

Trial of the

Hard though it is to believe, the Amiga has been out of production for a year. With the legal wranglings over the corpse of Commodore dragging on with no clear end in sight, by rights the most popular home computer ever should have long been dead and buried.

It's a testament to this machine's qualities, then, that support for the Amiga is still extremely vibrant. CTW, the industry's trade magazine, found in a survey of major distributors that almost all were ready to support the Amiga when it makes a come back. A few months later we found this level of commitment had not changed.

This article is not intended as a 'my computer's the best' spiel – that type of propaganda rings hollow when the basic Amiga is compared to the latest, albeit expensive, line of PCs. However, the Amiga does have some key strengths that bode well for the future, so we decided to find out who's still rooting for the only true home computer around.

To get an overview of what lies ahead, we gave some of the biggest names on the Amiga scene a chance to air their views on what went wrong and what needs to be done. This is what they said.

Hi-Soft

For many years Hi-Soft has been a highly respected developer for the Amiga. However, it was the release of their acclaimed Squirrel SCSI interface a few months ago that has put them firmly in the limelight.

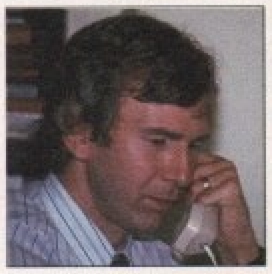
When we asked MD, David Link, whether it was worthwhile to develop more new products for the Amiga in these difficult days, his response was cautious but positive. "You have to be a small, lean company to develop for the Amiga at the moment,' he said, 'and that precludes companies like Microsoft."

He claimed that the Squirrel was a good example of what could be achieved with the right product, however, with demand for the SCSI wonder greater now than even a month ago. "It just goes to show that people are looking to expand their Amigas and are looking to the future. If they're spending money on expansion they're obviously not thinking of discarding their Amiga in the short term."

Asked who he hoped would take over the Amiga, Link echoed John Arundel in his support for Amiga International. "They have the best interests of the Amiga at heart. It's also important to a lesser extent that they are based in the UK which, I believe, is at the centre of Amiga sales."

If the Amiga is going to make a run of it in the future against the all-conquering PC, Link stressed that whoever did win the takeover must concentrate on getting a technical edge and competitive pricing. "I believe in personal computing at the black box stereo price which neither the Mac or the PC quite achieve. PCs are horrendous things really – talk to anyone who's tried to build one up and you'll hear horror stories."





David Link: "People are looking to expand their Amigas"

Silica

There's no point having good products on a computer if customers can't easily buy them, so the importance of keeping the presence of major distributors in the Amiga market cannot be overstressd. It's particularly encouraging, therefore, to see that the huge Amiga backer, Silica, has no intention of abandoning the platform now. John Arundel, the company's group marketing controller, pointed out two reasons why this was.

"First, there's a huge user base we're not going to abandon just because the Amiga is currently out of production. Second, we believe the machine will be back."

Despite Silica's need to introduce PCs into their catalogues due to the non-availability of Amigas, Arundel's enthusiasm for a return of the Amiga sounded heartfelt. He pointed out the Amiga's strength as an entry-level home computer.

"Some people won't be able to afford a PC – that's one of the reasons why we really want the Amiga to come back. With the decline of the ST the Amiga is the only hope."

The lack of production has obviously led to a gap in sales at Silica that they have had to try and compensate for by selling other platforms. But on the positive side, he was extremely pleased with Silica's sales of the CD32 Critical Zone package, which has now been reduced to £199. "People who would have bought Amigas," he said, "have been buying CD32s because they're fully upgradeable."

Like many others we spoke to, Arundel felt it was well worthwhile bringing out further products for the platform because of the nature of the people who use it. "They're dedicated and a lot are very technical. They're in it for the long term, so there's a long-term market."

He stressed, however, that the quality of new peripherals and products must be high. "Amiga owners are definitely becoming more discerning."

Asked who he'd like to win the take-over bid for the Amiga, Arundel replied: "I'd love Dave (Pleasance) to get it because he's capable of doing it and he's got a heart for it – the heart of a hobbyist."

When asked what a new owner of the Amiga could do to give the machine a fighting chance, Arundel replied: "They've got to recognise the Amiga's strengths, which is graphics and to a certain extent gameplay, and build on them to establish a niche market."

To conclude Arundel stated: "We're certainly very positive about the future for the Amiga." With the recent release of the Mamba and the Loader drive, and the promise of more Amiga products in the pipeline, thankfully, Silica seems to be putting its money where its mouth is.

e Amiga

Despite the collapse of Commodore, the Amiga still commands huge support. Gareth Lofthouse set out to judge the loyalty of some major players



Team 17

If you had to choose one games developer that had contributed the most to the leisure market on the Amiga, the chances are you'd pick Team 17. With highly successful releases like the Alien Breed series to their credit, most Amiga owners will have at least one Team product in their cupboards.

Marcus Dyson, the company's Multimedia Development Manager, expressed fears for the industry in general should the Amiga fail to return. "Consoles like the Playstation are excellent games machines, but they don't do anything for creativity. In this respect the Amiga was a phenomenal catalyst, and an incredibly important machine.

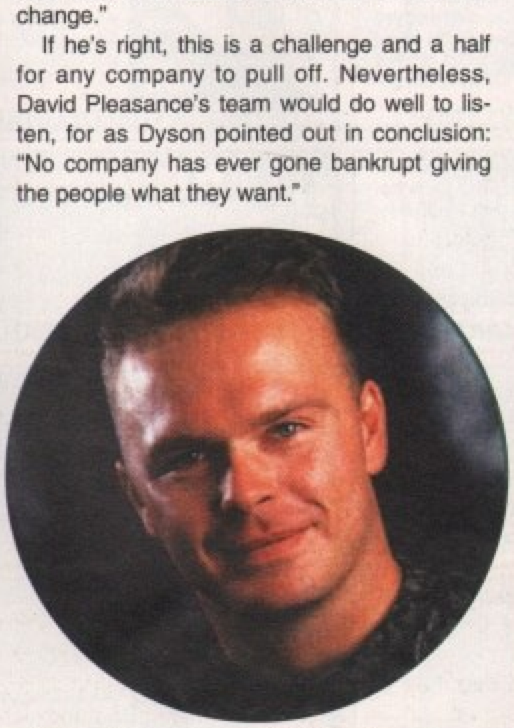
"What we stand to lose if the Amiga is not available for around the £300 mark is a machine that lets people realise their creative ambitions. The Amiga was a volkscomputer. It brought the power to use technology within the reach of most people."

In the past, Team 17's Martin Brown had expressed concern about where programming talent was going to come from if teenagers couldn't afford to get into computing. By contrast, Dyson was more concerned about computer artists than programmer. "What I fear," he said, "is that we may lose artists and musicians who often do not start off with a sense of serious purpose regarding computers, but move across from games-playing instead."

Worryingly, Dyson's view of what Amiga International would have to do to resurrect the platform was daunting. "Whoever takes over the Amiga has a huge job ahead of them. First they must produce A1200s they can sell for under £200 for Christmas 1995. Then they have to produce a 50Mhz 030 machine with a CD player in the near future. And they have to actively chase the 3D/Multimedia/video user and make these businesses their territory."

"Most importantly of all, the new owners of the Amiga have to get themselves a presence on the Internet, preferably by someone who not only knows what they're talking about, but also has some power to provoke action and change."

If he's right, this is a challenge and a half for any company to pull off. Nevertheless, David Pleasance's team would do well to listen, for as Dyson pointed out in conclusion: "No company has ever gone bankrupt giving the people what they want."



Marcus Dyson: Fears for the industry

Premier Vision

When it comes to professional Amiga applications, Premier Vision are *the* people to talk to. With a strong range of multimedia tools, they've helped the Amiga make its mark in adverts and presentations for French Motorail, the National Trust and King's College Hospital, to name but a few.



Andy Bishop, joint MD of Premier Vision believes the Amiga has made a rod for its own back

Andy Bishop, Joint MD for Premier Vision, was outspoken when it came to the Amiga's strengths. "The Amiga is astounding. It has the most effective interface of any platform. On the PC, Microsoft have struggled for years to come up with Windows '95, and even that's not as good as AmigaDOS."

Bishop pointed to a number of products that had made the Amiga such an important player in multimedia circles including Lightwave, the PAR Card, Bars and Pipes Pro and ADPro.

Surprisingly, however, these packages' cheapness relative to their PC counterparts was not, in Bishop's view, necessarily a good thing. Commenting on the price difference between ADPro and Adobe Photoshop he said: "Yes, Photoshop is more expensive but the difference is that Amiga products have always been underpriced. Why do you think after half a year 40-50 per cent of Amiga companies go bankrupt? It's because they're not making enough money in the first place."

In short, Bishop believes the Amiga market has made a rod for its own back. And like Team 17's Marcus Dyson, he argues that if the Amiga is to make a comeback it will need some pretty impressive spec increases.

"The Amiga needs an 040 (roughly six times faster than the standard A1200) on the motherboard as standard. And it needs an 060 on the motherboard with a very large cache for a higher-end machine."

If the Amiga is going to make a comeback, it sounds like the boffins at Amiga International are going to have to come up with the goods quicksmart.

Keys to the future

All in all, then, the companies we approached gave an encouraging idea of the strength of feeling the Amiga provokes. However, there are obviously some hard lessons to be learnt from the past.

Everyone pointed to certain Amiga strong points, and the general concern about the absence of a £300 home computer on the market gives cause for hope in the future.

The Amiga is undoubtedly a special machine in the eyes of all those who've been involved in the market. There are a lot of good points to build on – let's just hope the legal mess is resolved quickly enough to let it happen.

AC

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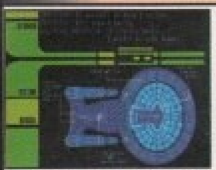
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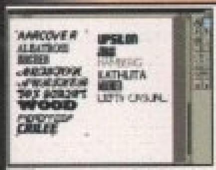
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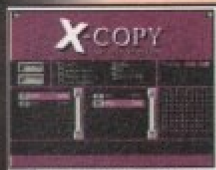

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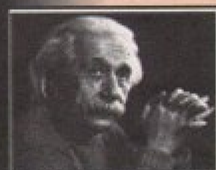


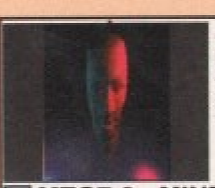
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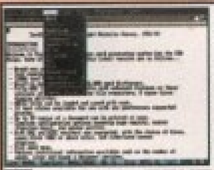


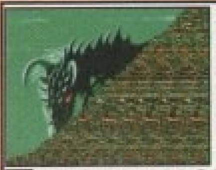
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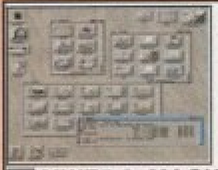

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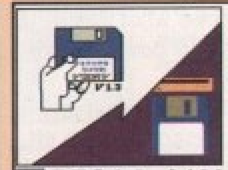

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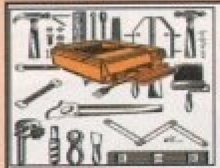

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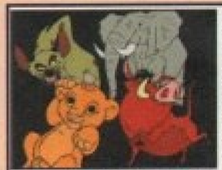

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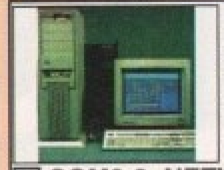

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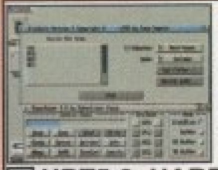

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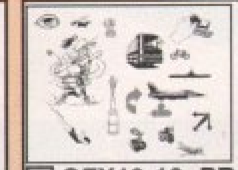

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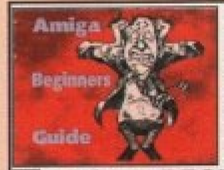

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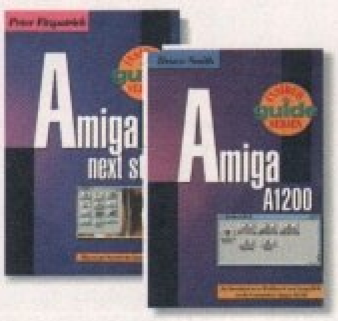
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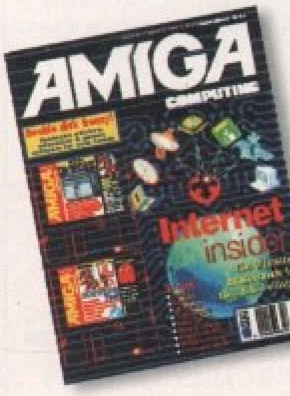


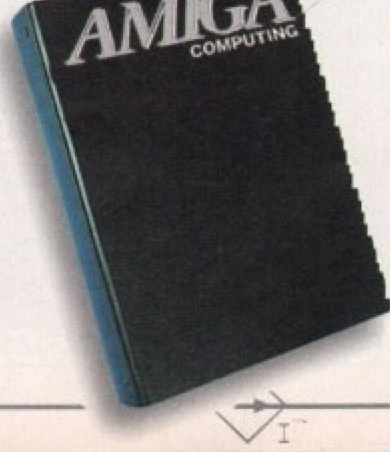
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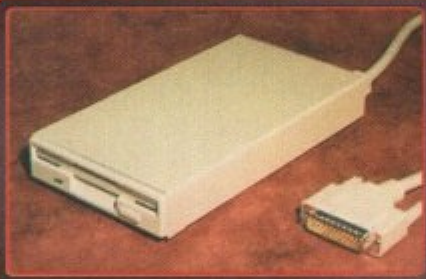
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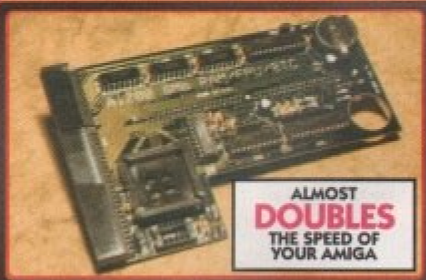
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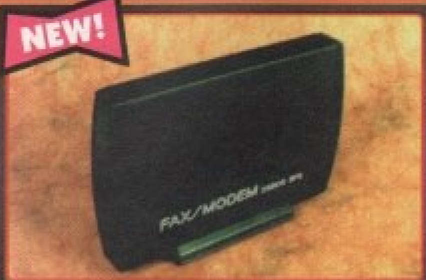
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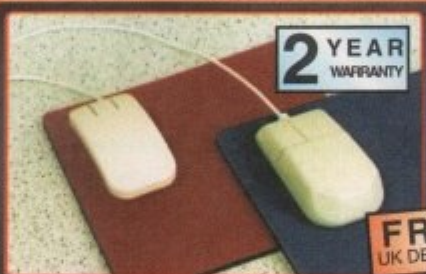
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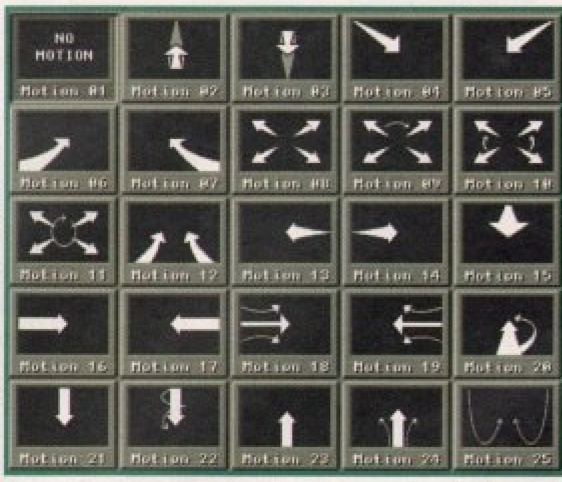
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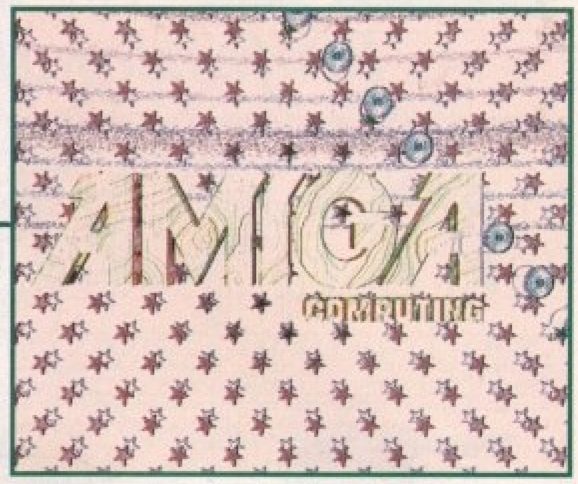
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The image in the background was randomly created in the new image factory option



Choose how your logo makes its grand entrance to the scene by simply pointing and clicking on a style

Spontaneous animation

After the first release opened eyes, the enhanced Wavemaker 2 arrives living up to its name. Adam 'Gump' Phillips reviews

There's nothing quite like instant gratification. Take Wavemaker 2. When put up against its legendary mother, Lightwave, an already simple package to get stuck into, you wonder why you stand for certain features that Wavemaker 2 makes so embarrassingly easy. For those unfamiliar with its prequel, the Wavemaker 'series' enables even the Forrest Gumps of this world to produce first rate logo-based animation in a matter of minutes.

Coming in a sturdy box with a rather unfortunate logo crudely plastered on, the quality of product clasped in your hands could be overlooked if browsing in a software emporium. Installing the program, however, causes any doubts, reasonable or otherwise, to vanish instantly.

Designed to be used with Lightwave simultaneously running in the background (though not a necessity), all animation set-ups take place on one screen by pointing and clicking on the relevant buttons.

Running down the left-hand side of the screen is the main panel. From here, the lazy animator can dip into a variety of animation styles. Using the Smart Anims option, you're able to drop your logo into one of the preset full animations provided with full background and element effects.

IN MOTION

The more adventurous can move into the finer details. The first port of call for any anim is the motions panel. Broken down into three optional stages, you can decide how the logo flies in to picture, in which position it holds and how it leaves the scene. With 75 methods available, there's enough choice to keep you from tweaking the end results in Lightwave for quite some time.

Once the motion path has been decided on, the duration of each of the stages can be altered to any length, in increments of 30 frames (a second). Then flick to the elements list which now features over 70 special effects, from streaks of light shooting across the screen to a 'mysterious tube.' Up to eight layers of these elements can be added to create a vibrant eye-grabbing anim.

Once you've added any layered backgrounds you may want, move into Lightwave to catch a preview or render off the animation for the end result. Another option that deserves a mention is the highly useful storyboarding facility. Ideal for getting a rough idea of what the end product will look like, it can be used to show clients what they'll be getting and offer them a chance to make changes before spending hours rendering the finished anim.

Version 2's new features include support for DPS's PARcard and the image factory. PAR users can now render off large amounts of animation, save it to the Amiga's hard drive and Wavemaker will then transfer the lot across to the PARcard. The reason for taking this route to the PAR is because Wavemaker controls the sequence of animations differently.

Fortunately, there's no need to worry if you only have limited hard drive space and want to render off a series of anims one after another – once an animation has been sent to the PAR, Wavemaker automatically writes the new anim over the previously hard drive-based one. When ported across to the PAR, each animation is given its own marker to prevent overwriting.

The image factory allows animators to produce randomly created backdrops for flying logos to shoot across. Results are attractive and use the elements to their full. The only real bugbear is having to render off the images in full broadcast quality. It would've been useful to be able to see random images at a lower resolution for reference purposes.

AC

Bug rectified

In the previous version of Wavemaker, there were problems for owners of Lightwave 3.5 in the form of the program crashing when a scene was moved from Wavemaker to the 3D package. In 3.5, for a scene to be created there needs to be one light present at all times. When Wavemaker moved its scene across with no light, the whole system disagreed rather strongly and crashed.

With Wavemaker 2, this bug has now been removed and scenes move seamlessly between the two programs.

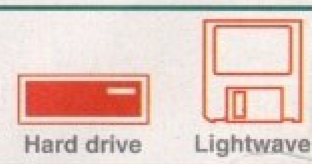
Verdict

On walking away from Wavemaker 2, this reviewer wanted to walk right back to the Amiga and play around with the package for a further week. With its motion paths and elements, the package can knock up professional results quickly and allows you the flexibility to form a basis for an anim and then fine tune it in Lightwave.

In other words, no self-respecting, money-making, Lightwave-wielding professional should be without this. Heaven sent.

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended



The bottom line

Product: Wavemaker 2
Supplier: Premier Vision
Tel: 0171-721 7050
Price: £199.95

Ease of use	**10**
Implementation	**9**
Value for money	**8**
Overall	**9**

Smooth scrolling



Part 11

Paul Overaa continues his assembly language Intuition display scrolling notes

Last month's code opened an oversized Intuition window in a custom screen and used a loop to search the associated hardware copper list for the instructions holding the screen's bitplane pointers. To smooth scroll this screen we are going to need to modify these bitplane pointers so that a slightly different area of screen memory is brought into use.

The bottom line here is that to move the displayed screen upwards by one screen line we need to add the 'bytes per row' field held in the screen's BitMap structure to each of the associated bitplane pointers. By using a loop which does this for a number of times equal to half the number of display lines, we can scroll between the upper and lower parts of our oversized display. Similarly, successively subtracting the same value from a display that has already been scrolled will reverse the process, i.e. it will scroll the screen downwards.

Since it is not a particularly good idea to mess around with the bitplane pointer values that Intuition places into the BitMap structure, I've chosen to work with copies of those pointers, and in the example code, space for these copies is created using this statement:

```
bitplane_copies     ds.l        8
```

with the pointers themselves being copied using this short dbra autoincrementing loop:

```
.loop    move.l         (a4)+,(a3)+ copy all bit-
plane pointers
         dbra           d2,.loop
```

Whenever the screen is scrolled by one line, all bitplane pointers associated with the screen will need to be adjusted, but rather than use a hard-coded value for the number of bitplanes I've opted for a more general arrangement – namely, using the bitplane count obtained from the screen's BitMap structure!

Having modified the copies of the bitplane pointers, the next step is to use them to replace the existing values in the hardware copper list. What we need, however, is a way of ensuring that we perform this updating at a time when the hardware copper list bitplane pointer values are not being used.

There are various possibilities available here, but the one I've opted for involves the graphics library WaitTOF() function. WaitTOF() returns as soon as the next vertical blanking period is complete and by this time, the current frame's vertical blanking initialisation has been done and the Copper will have already started re-executing the instructions for the current display frame.

At this point you need to be aware of the fact that the bitplane pointer values will be very near the start of the copper list, so as the Copper gets restarted during the vertical blanking period these bitplane values get used almost immediately. This means that by the time WaitTOF() returns we have effectively got the time related to a whole display frame to do any bitplane adjustments needed.

The calculations and poking operations are surprisingly simple. Firstly, we add the bytes per row value (in my example routine this is being stored in register d3) to each of the bitplane pointer copies like this:

```
calculate  add.l       d3,(a3)+     adjust bit-
plane addresses
           dbra        d2,.calculate
```

and then having re-initialised the appropriate pointers we just use a loop to read the modified 32-bit bitplane pointers and move them into the copper list.

Notice how in the following code fragment I'm using the 680x0 swap instruction to get the upper word of the bitplane pointer address into the data register's lower word. This allows both address poking operations to be done using move.w instructions:

```
.loop      move.l      (a3)+,d4     get full bit-
plane pointer
           swap        d4
           move.w      d4,(a4)      store pointer
upper word
           addq.l      #4,a4        move to next
copper instruction
           swap        d4
           move.w      d4,(a4)      store pointer
lower word
           addq.l      #4,a4        move to next
copper instruction
           dbra        d2,.loop
```

The final combined results of this jiggery-pokery are shown in listing 1 and this code ➤

```
;ScrollUp() on entry... needs no register parameters!

; Register Use: d2 used as a loop counter
;              d3 holds bytes per row
;              d4 holds modified bitplane pointers
;              d5 used as screenline scroll loop counter
;              a2 holds bitmap pointer
;              a3 holds successive bitplane pointers
;              a4 after initial temporary use holds copperlist pointer

ScrollUp     movem.l    a0-a4/d0-d5,-(a7)       preserve regs

             move.l     bitmap_p,a2
             move.l     a2,a4                   temporary copy
             addq.l     #bm_Planes,a4           a2 now points to bitplanes
             moveq      #0,d2
             move.b     bm_Depth(a2),d2         initialise loop counter
             subq.b     #1,d2                   counter goes to -1
             moveq      #0,d3
             move.w     bm_BytesPerRow(a2),d3
             lea        bitplane_copies,a3      points to bitplane copy area
.loop        move.l     (a4)+,(a3)+             copy all bitplane pointers
             dbra       d2,.loop

             move.l     #SCREEN_HEIGHT/2,d5
do_next_line            move.l     viewport_p,a0
             CALLSYS    WaitTOF,_GfxBase
             moveq      #0,d2
             move.b     bm_Depth(a2),d2
             subq.b     #1,d2
             lea        bitplane_copies,a3

.calculate   add.l      d3,(a3)+                adjust bitplane addresses
             dbra       d2,.calculate

             moveq      #0,d2
             move.b     bm_Depth(a2),d2         re-initialise pointers
             subq.b     #1,d2
             lea        bitplane_copies,a3
             move.l     copperlist_p,a4

.loop        move.l     (a3)+,d4                get full bitplane pointer
             swap       d4
             move.w     d4,(a4)                 store pointer upper word
             addq.l     #4,a4                   move to next copper instruction
             swap       d4
             move.w     d4,(a4)                 store pointer lower word
             addq.l     #4,a4                   move to next copper instruction
             dbra       d2,.loop

             move.l     #SCROLL_DELAY,d1        load time delay value
             CALLSYS    Delay,_DOSBase

             dbra       d5,do_next_line

             movem.l    (a7)+,a0-a4/d0-d5       restore regs
             rts
```

Listing 1: The completed ScrollUp() routine

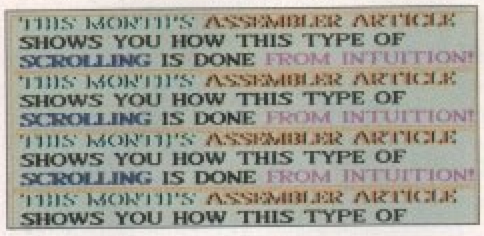
```
DrawBlocks:
;          Requires following parameters on entry...
;          a0 = window rastport pointer
;          a1 = image pointer
;          d0 = starting left offset value
;          d1 = starting top offset value
;          d2 = required horizontal block count
;          d3 = required vertical block count

           movem.l   d0-d7/a0-a6,-(sp)     preserve regs
           move.l    _IntuitionBase,a6     library base
           move.l    a0,a2                 rastport pointer
           move.l    a1,a3                 image pointer
           move.w    d0,d6                 d6 = current left
                                           offset
           move.w    d0,d7                 left offset for
                                           reuse
           move.w    d1,a4                 top offset
           move.w    d2,a5                 column count for
                                           reuse
           move.w    ig_Width(a1),d4       image width in d4
           move.w    ig_Height(a1),d5      image height in d5
draw_row   jsr       _LVODrawImage(a6)
           subq      #1,d2        decrease count
           beq       next_row
           move.w    a4,d1        set top offset
           add.w     d4,d6        form new left offset
draw_row2  move.w    d6,d0        needed for library function
call
           move.l    a2,a0        restore rastport pointer
           move.l    a3,a1        restore image pointer
           bra       draw_row     keep going
next_row   subq      #1,d3        decrease count
           beq       draw_end
           move.w    d7,d6        reset start left offset for row
           move.w    a5,d2        reset column count
           move.w    a4,d1
           add.w     d5,d1
           move.w    d1,a4        top offset for next row
           bra       draw_row2
draw_end   movem.l   (sp)+,d0-d7/a0-a6     restore regs
           rts
```

Listing 2: The DrawBlocks() routine used to provide some graphics

represents the completed upward scrolling routine. Downward scrolling, as you'll see when you examine the cover disk source code, is primarily just a matter of subtracting the BytesPerRow field from the bitplane pointers rather than adding it. Note, however, that because I've assumed that a ScrollUp() operation will have already been performed, the bitplane pointer copies are not initialised to their respective 'scrolled up' values from within the ScrollDown() routine itself.

There would be little point in producing an example that scrolled an empty screen because you wouldn't see anything. This being so, I've included a DrawBlock() drawing routine in the code which allows me to place some visible graphics in the screen area. The routine takes a specified image and creates an M row by N column set of copies of the image on the screen and, as you'll see when you examine the associated code, it requires pointers to the image and window rastport, the initial (x,y) offset co-ordinates, and the horizontal and vertical block count values to be used.



Inovatronic's PowerWindows was used to produce the image structure

The routine starts by copying those parameters it will need to re-use and then extracts the width and height of the image using this pair of indirect addressing with displacement instructions:

```
         move.w      ig_Width(a1),d4
image width in d4
         move.w      ig_Height(a1),d5
image height in d5
```

Having done that it then simply uses a twin loop to draw all the required rows of images in turn. The complete routine is shown in listing 2 but do note that although this simple array-based approach is good enough for our purposes, there are far more sophisticated and efficient ways of producing these tiling effects.

There is, incidentally, nothing special about the graphics themselves. I just knocked up a couple of simple images using DPaint, saved them as IFF brushes and converted those brushes to assembler-style image structures. There are plenty of programs that can do the brush to image conversion, but I actually loaded them into Inovatronic's Power Windows as gadget images, generated the corresponding assembler code, and then copied the 680x0 image data statements from the code that was produced.

```
                  SECTION Image,DATA_C

Image1:
          dc.w      0,0          ;XY origin relative to container TopLeft
          dc.w      160,30       ;Image width and height in pixels
          dc.w      3            ;number of bitplanes in Image
          dc.l      ImageData1   ;pointer to ImageData
          dc.b      $0007,$0000  ;PlanePick and PlaneOnOff
          dc.l      NULL         ;next Image structure

ImageData1:
          dc.w      $0000,$0000,$0000,$0000,$0000,$0000,$0000,$0000
          dc.w      $0000,$0000,$0000,$0000,$0000,$0000,$0000,$1FFF
          dc.w      .... etc.
```

Listing 3: Part of the image data definitions showing the section directive.

Image data does of course need to be placed in chip memory and the easiest way of doing this is to include a chip memory section directive just before the image structures. Listing 3 shows how this is done with HiSoft's Devpac assembler and you'll notice that the directive takes this form:

```
SECTION Image,DATA_C
```

Those of you using Charlie Gibb's A68k assembler will need to use this slightly modified version in order to get the code to assemble without error:

```
SECTION Image,DATA,CHIP
```

```
set_display move.l    window_p,a1          window address in a1
            move.l    wd_RPort(a1),a0      copy rastport pointer into a0
            lea       Image0,a1            pointer to image
            moveq     #100,d0              left offset
            moveq     #85,d1               top offset
            moveq     #1,d2                columns count
            moveq     #4,d3                rows count
            jsr       DrawBlocks
            jsr       ScrollUp
change_display        move.l               window_p,a1 window address in
                                           a1
            move.l    wd_RPort(a1),        a0          copy rastport
                                           pointer into a0
            lea       Image1,a1            pointer to image
            moveq     #0,d0                left offset
            moveq     #0,d1                top offset
            moveq     #4,d2                columns count
            moveq     #10,d3               rows count
            jsr       DrawBlocks
            jsr       ScrollDown
```

Listing 4: The code fragment to create the final graphics and scrolling effects

Overall structure of the code

On this month's cover disk you'll find the source code and a Workbench 2+ runable version of the example program. Much of the code will doubtless be familiar from previous instalments but to help you find your way around, here are some additional notes.

At the start of the example you'll find the various EQUates used by the program. As usual I've included my own versions of the relevant Amiga system header file definitions so the code will assemble without needing the official includes. You'll also find the LINKLIB and CALLSYS macros I use for making library calls. The main code opens the DOS, intuition and graphics libraries, opens a custom screen and window, and then executes the copperlist searching code (discussed last month) that locates the bitplane pointers.

Immediately after this I've drawn some images into the top area of the window and then made a call to the ScrollUp() routine we've discussed this month. Since this is in part of the window that is visible when the window is first opened, you not only see the first set of images but you see them moving up as the scroll routine alters the copperlist bitplane pointers.

By the time the upward scroll has been completed, however, those images, though still present in the window, will have been moved off the screen. At this point all you'll be seeing is the lowest (empty) part of the screen memory, so anything written into the top part of the display memory will not affect the visible display at all.

All I've done in this example is to re-use the DrawBocks() routine to fill the upper part of the bitplane memory with another set of images, before reversing the scroll by calling ScrollDown(). The overall effect is that immediately after the first set of images scroll off the screen a completely different set of images come into view as the screen is scrolled down (the fragment of code which performs this drawing and scrolling is shown in listing 4).

There are, of course, quite a variety of scroll methods available but almost all will, at the end of the day, rely on 'poking' hardware copper lists to achieve their effects. As you doubtless realise by now, the underlying ideas of copper list bitplane pointer adjustment are actually quite straightforward, so once you have a reasonable grasp of how a simple smooth scroll, such as the one I've described, is performed, the more complicated tricks you may read about will hopefully become that much easier to understand.



SYSTEM

Your essential guide to the Amiga gaming world

Make mine a double

Krisalis go straight to the top of the league with their fourth Manchester United license

Under the system spotlight

SYSTEM ANALYSIS

Show offs!

The Kensington Olympia played host to the industry's bi-annual Spring bash, the European Computer Trade Show. It attracted some of the biggest and best developers, publishers and distributors from all over the world and a record 8,498 visitors attended over the three day event.

The venue was changed to Olympia after five years of being held at the Business Design Centre to offer extra floor space to exhibitors. The event was certainly high profile, particularly so with the official unveiling of Sony's PlayStation. Taking up a huge space at the back of Olympia, it boasted 100 machines which demonstrated their latest dazzling titles.

Also demanding attention was Virgin's £250,000 space station. Complete with purple-wigged young ladies and gun-toting muscle men, it was certainly novel! It housed an impressive range of their new games.

Those who wandered over to the bar wouldn't have failed to notice Ocean's name splashed all over the place. Ocean sponsored the ECTS watering hole and took over the area surrounding it, blasting their latest wares at the customers over video screens.

Ocean also had news about their deal with Team 17. A two-year publishing deal means Ocean now has global rights to all Team 17's current projects and first refusal on new games during the contract.

This will allow Team 17 to put more money into their in-house development and to expand across more platforms, and Ocean will now have the rights to the potential hit game, Worms, among others.

And amidst all the hype we delved deep to bring you all the latest news on forthcoming Amiga games from names such as MicroProse, Impressions, Krisalis, Warner Interactive and many more.

system online



Tina Hackett returns bright-eyed and bushy tailed from the Spring European Computer Trade Show with glad tidings of all the new Amiga games

ECTS SHOW

Dungeon time

It's nearly time! The original Dungeon Master appeared in 1987 and changed the face of RPGs as we knew them. It sold in excess of a quarter of a million copies in Europe alone and now it's back boasting even more features than ever.

Called Dungeon Master 2: The Legend of Skullkeep, it's a real-time 3D adventure that promises to "immerse the player into an even more realistic world." This will be conveyed through detailed animations, sound effects, direction, and real-time combat.

An artificial intelligence system will mean creatures now think for themselves and there will also be an economy to handle. The player will also be able to interact more with other characters and creatures they come across.

Dungeon Master II

Dungeon Master 2 coming your way soon



DM2 will "immerse the player into a more realistic world"

Am I evil?

Black Legend are bringing out an RPG that promises to be that bit different. Evil's Doom is a ray-traced fantasy game with rendered objects and is shown in 640 x 512 screen resolution which makes it the only Hi-res RPG for the Amiga 500 and above.

The rather strange background to the game puts you in the role of Dervish. An evil sorcerer has summoned seven demons from the Netherworld to incarcerate the Four Horsemen of the Apocalypse. You have a vision that Death has called you to meet at the Castle of Lost Legion on the island of Noya and it's down to you to free the riders.

You will have around 30 spells at your disposal and a vast area to explore – in fact, it's around five times the size of Dungeon Master, and it's coming your way around June time.



Evil's Doom promises to be a huge RPG

More robots to rise

Rise of the Robots received a mixed reception when it arrived just before last Christmas. Whatever the view on the actual game itself, there was never any doubt about the quality of its superb graphics.

Mirage have acted upon their results of a market research program to ensure the game meets the demands of the beat-'em-up fans, and this sequel will have some impressive new features. This time there will be more robots – and the facilities to play any robot, robots flipping on screen, many weapons and enhanced artificial intelligence. Each of the robots will have a different personality which will show through in its response to attack and defence and through its moves. A tournament editor will also allow the player to customise the robot's aggression and difficulty levels.

The game is scheduled for an Autumn release on various leading games formats including the CD32.

Mirage have another game in the pipeline. Called The Adrenaline Factor, it is a cyberpunk strategy/blast-'em-up viewed from an isometric angle. It's set in the 21st century where genetic creatures have replaced manual labour. These creatures, the Bio mechs, have become extremely powerful and the human race is under threat.

You play Colonel Davies, who orders the development of three types of robot warrior to attack the Bio-Mechs. The robots are controlled via a computer screen from 'Satnet,' an information and data retrieval system, and levels differ in their missions from the more strategy-based to the total warfare!

Adrenalin(e) Factor will look pretty spectacular with a fully animated rendered world. Mirage's own game editor has been used to create the environment and it allows highly detailed levels and the plotting of character's moves to be done fairly easily. Cinematic sequences also form part of the gameplay. Look forward to the title at the end of this year for the CD32.



Rise 2 – Resurrection will contain many new features such as enhanced artificial intelligence



The Adrenalin(e) Factor is set in a fully animated rendered world

And the winner is...

The show also hosts the industry's equivalent of the Oscars – the 1995 ECTS awards. Voted by the consumers, the press and the industry, the awards recognise the excellence in software creation over the past year.

This year's awards saw The Lion King taking the BBC Live and Kicking Viewer's Award, beating off other nominations such as FIFA Soccer '95, Cannon Fodder, and Sensible World of Soccer. Doom 2 scooped Game of the Year from Spain and Scandinavia, and Virgin won the CTW Marketing Award.

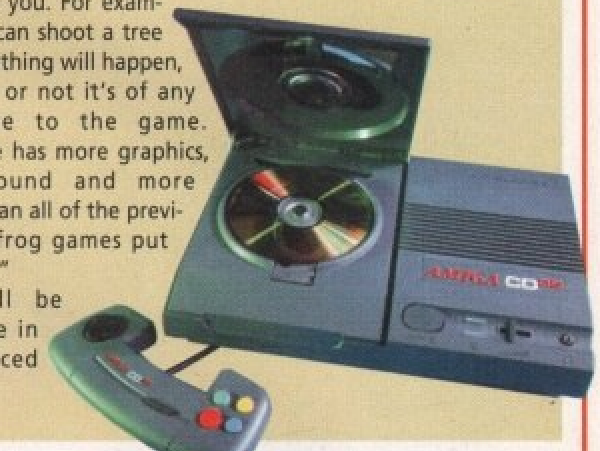
Bullfrog did extremely well out of the proceedings, winning both the Developer of the Year and an award for innovation. Magic Carpet also scooped the Most Original New Title and Computer Software Game of the Year.

Syndicate on CD32

Bullfrog's hit game, Syndicate, is undergoing a conversion to the CD32 through Mindscape. The game is set in a rather bleak portrayal of the future where three mega-corporations have taken over the world. They have taken the role of an unelected government and rule by force. You control your team of cyborgs and compete with eight other Syndicates for control over 50 territories. It will feature auto-targeting for joystick control and action-sensitive music.

Bullfrog's Peter Molyneux commented: "I wanted there to be more freedom for the players to do anything they wanted, so it's up to you. For example, you can shoot a tree and something will happen, whether or not it's of any relevance to the game. Syndicate has more graphics, more sound and more design than all of the previous Bullfrog games put together."

It will be available in May, priced £34.99.



Winning formula



Brought to you by the company behind On the Ball, you can now manage a Formula One team

Ascon, the company behind the excellent footy management sim, On the Ball, have gone for a slight change in direction with their new release, Pole Position. Again, it uses the management sim angle but this time you are taken to the fast world of Formula 1 racing.

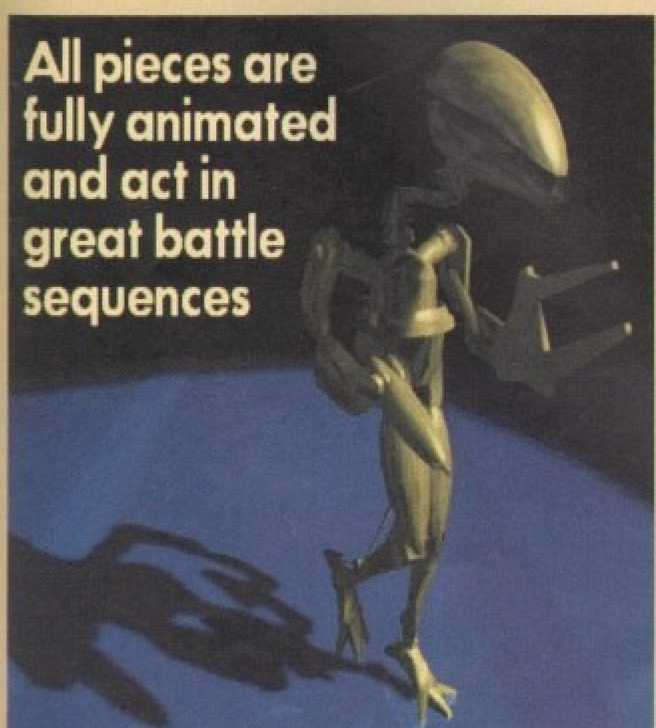
It's down to you to take your team to the top of the international racing scene and you'll have a variety of jobs to deal with from negotiating contracts with sponsors to keeping team motivation high.

Financial responsibility is also left in your hands, with investment decisions to make and bank loans to consider. There is a great deal of detail too on the technical development of new technology and the buying and selling of innovations. When the big day arrives you can see each race live with TV-like sequences and you will see the outcome of your decisions.

REPORT SPECIAL

Old Chess-nut

Union Interactive, a Polish development team, are busy at work on a fully-animated chess game called Chess Through the ages, and a mysteriously entitled Behind the Iron Gate. Details are sketchy at the moment but we'll be bringing you more as we get them.



Chess Through The Ages due in August for AGA Amigas

Cop this!

There's a rather fun-looking title on the Horizon from Renegade and Graftgold. Called Virocop, it is a 3D platform shoot-'em-up set in a virtual-holiday theme park. DAVE (Digital Armoured Virus Exterminator) is the Virocop issued with the deadly mission of eliminating the viruses who are reeking havoc in the park.

There are four zones in which the player will have to kill the baddies, ranging from Military to Sports, and there are plenty of weapons available to do it with. Flame throwers, multi-shells and smart bombs will see off the baddies unique to each level.

There will be an A500 and an A1200 version available, with the A1200 featuring a bonus world. Look forward to Virocop around May.

Souled out

Clwyd-based programming team, Parys Technographx, are working on Tower of Souls, an isometric arcade adventure for Black Legend. Set over seven levels, you play Treeac and it is your job to restore the land of Chaybore back to normal. An evil demon has used engines to suck the lifeforce from its inhabitants, and to restore peace you need to destroy the engines and retrieve the magic Nydus Crystals.

As well as having hidden rooms to explore and puzzles to solve, you have access to 22 spells, all of which can be cast in five different strengths. A novel control system allows movement in eight directions, spell casting, combat and taking objects to be carried out with ease.

It will be available for £29.99 on all Amigas with an enhanced version for the A1200.

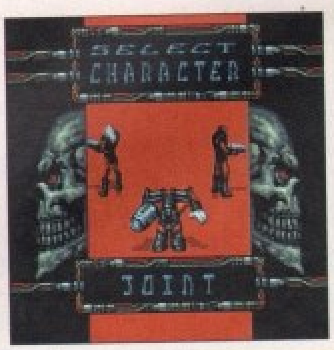


Tower of Souls is an RPG arcade adventure shown from an isometric viewpoint

System Selections

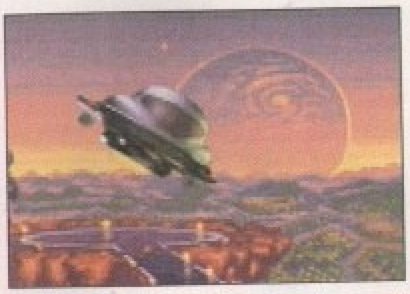
With all the new releases available, you're probably wondering which ones to spend your hard-earned cash on. Well, take a look below

Skeleton Krew



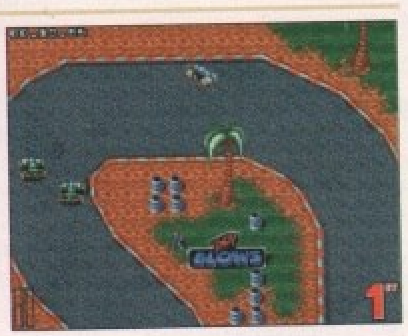
This is my first musical highlight of 1995 and it's all thanks to Core Design who have obviously got the intelligence to use someone who is skilled at creating original pieces of high quality music that belong in the '90s and not the '80s. The graphics are very impressive and it's obvious they've been created by someone with a love for science fiction films and comic books. For people who are interested in stabbing that fire button as fast as possible, Skeleton Krew could well be your cup of tea.

Extractors CD32-Rom



Extractors is graced with some of the best graphics I've ever seen for this type of game and it's packed to the brim with more addictive gameplay than you can possibly cope with. There are literally thousands of hours of play contained within the game. Fans of Diggers will no doubt be interested in Extractors, but I hope Millennium gain a few more fans through this release and people don't ignore it this time around.

All Terrain Racing



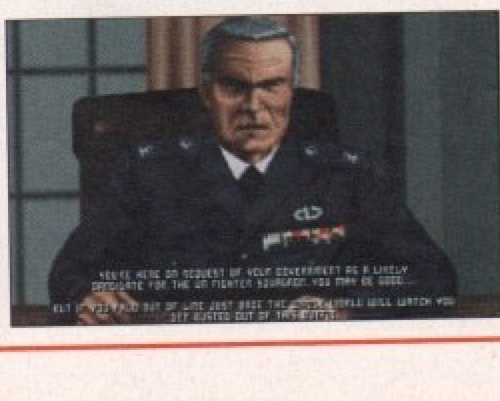
On the balance of things it beats its predecessors because of a greater long-term incentive. The rewards of winning the money, then spending it to soup up my motor filled me with a boyish flush of satisfaction – and that's the sort of thing to keep a player going. It's got the looks, the features and the speed to take the chequered flag. Go forth and spend your money.

SKIDMARKS 2



This is one hell of a race-'em-up it has to be said. It's great fun especially when you have two or more players and it works really well in bringing out the competitive edge in you. This is one of the most playable and fun race-'em-ups around and with the vast amount of new features added it's certainly worth a look, even if you have the original.

TFX



With a suitably accelerated machine, this game has the visual flair and excitement to attract fans usually put off by the Sim-designers' fetish for complexity. Problems aside, this game beats its closest rival both in detail and speed. TFX is the best sim on the Amiga of all time, and that's a fact unlikely to change in a long, long time.

The scores on the doors

A guide to how our revolutionary scoring system works...

We're sure many of you are now familiar with our new scoring system, but for those reading *Amiga Computing* for the first time and those who might have forgotten exactly how it works, here is our guide to the System scoring, err system.

In our opinion, review scores have lost their context as a percentage; some products receiving scores which were only a few percentage short of being the "perfect" game, when in truth they were only marginally above average.

OK, so the scores might seem unnaturally low at first, but that's only because other scoring systems tend to be on the high side and perhaps not as comprehensive or honest as they could be.

In the long run you'll receive a more concise and reader-orientated review that's geared towards the consumer.

0-20 This is given to the lowest of the low

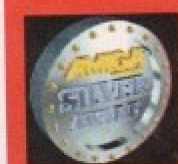
21-30 An all-round poor game that may have a single saving grace

31-40 Just below the average, perhaps let down by a few indiscretions.

41-55 Games of this score are roughly average with 50 being a perfectly average score.

56-66 This is an above average game and is worth buying. For this reason it would be awarded the BRONZE award.





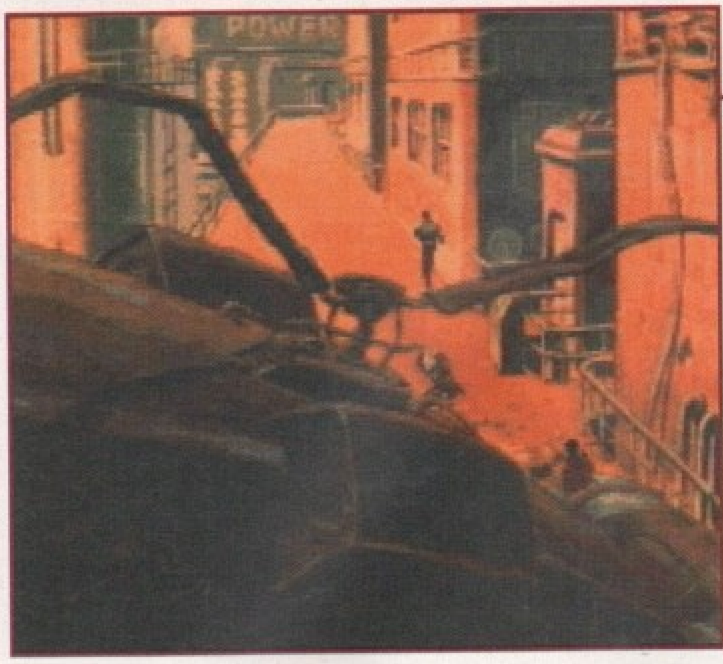
67-77 A game of high quality that you as a reviewer would have no reservation in recommending. Anything of this ilk would be awarded the SILVER award.

78-89 A brilliant title. Definitely worth buying and almost the definitive of its kind. This type of game would receive the GOLD award.

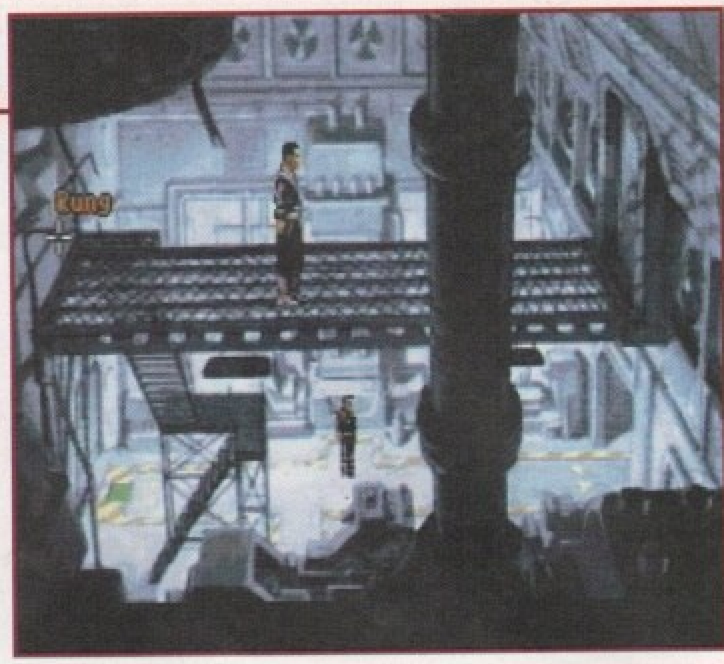


90-100 The best in its genre. This benchmark title receives the PLATINUM title.





A shot from the marvellous introduction sequence that sets the scene for your forthcoming adventure through the world of Beneath a Steel Sky



Grab the run from the side of the screen and then use it on the door to get out of the building, but keep an eye on that security guar

beat the system



Re-released on the CD32 with some fancy new speech bits added, this superb adventure, created by top 2000AD artist, Dave Gibbons, is given the once over by our resident hints and tipster to help all newcomers

To start with, follow the technical manual that comes free with the game to get in and out of the furnace room. Once out of the furnace head right two screens. Go into the building next to the lift. This is the factory. Chat with Anita and when Lamb arrives, tell him that you're security.

Go right and place the spanner into the cogs, but don't forget to take it out again! Go back to the room on the left to examine the droid and use the spanner on it. Chat to Joey about a new shell then head right once more.

Try to go into the storeroom, but ask Joey to check the room for you. When he returns, tell him to disable the fuse box. Once he has returned again, walk into the storeroom, pick up the walkway, then pick up the small lump of putty that was hidden beneath it.

Leave the factory and go to the building on the far left of the walkway – this is the steam room. Once inside, use the spanner on both buttons on the boiler. Ask Joey to press the button on the right while you simultaneously press the one on the left.

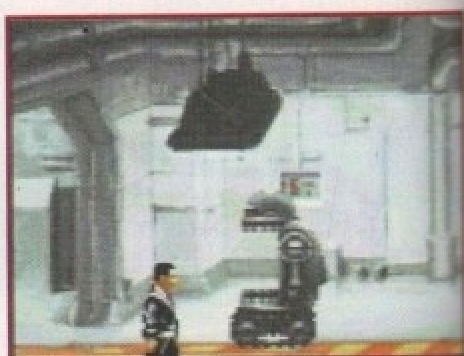
When the old man leaves, go to the left of the room and push the switch. Remove the light bulb and use the putty (plastic explosive) on the socket. Pull the switch again and the doors will blast open, revealing two more switches. Pull the switch on the right down and leave the room. Go to the lift near the factory, use the card on the slot and enter the lift. Once out of the lift, head left towards the room with all the plants inside.

Use the card on the left slot and enter the room. Move the pillow and pick up the magazine. Leave the room and head past the lift to the Travel shop on the next screen.

Chat with the man about everything. Hand him the magazine and pick up the ticket, then leave and head towards the apartment. Wait outside for Lamb. When he arrives chat to him and when he mentions going away, hand him the travel ticket.

Go back to the factory via the lift and talk to Lamb again. After the tour he leaves you outside the storeroom. Go right and talk to Anita. When she asks you for an ID card, hand her Reich's. Chat with Anita about everything. Leave the factory and use the card with the LINC terminal. Select 4 and enter the code from the Security manual that comes with the game.

Select 2, then 1, then 1 again and then 2. Exit the terminal and wait for Lamb. Talk to him and he will authorise you to enter his apartment. Before going down, locate the cable to the right of the screen and ask Joey to cut it down.



Activate the transporter robot and you'll be able to make it down the lift to the furnace, but how do you fix the robot in the first place?

Go down in the lift and pick up the cable. Go to the apartments and put the card in the slot on the right. Enter the apartments and use the food machine on the right. Pick up the video on the left and leave the room.

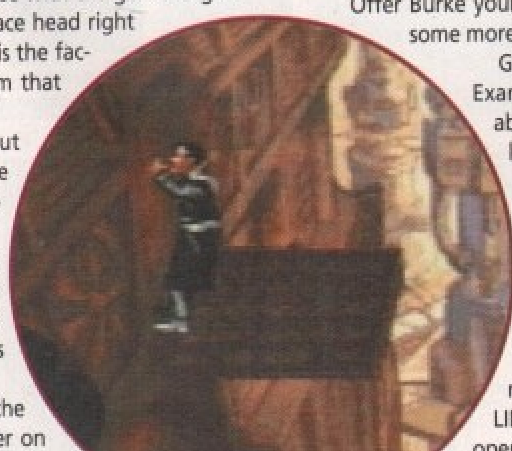
Go to the far left of the walkway and you'll find Burke's Bio Surgery. Go inside and chat with the hologram. Ask Joey to persuade the hologram to open the door, then go inside and chat to Burke. Offer Burke your testicles and he'll give you a Schreibmann port. Chat to Burke some more and then leave the surgery.

Go right until you find Anchor Insurance (next to Travelco). Examine the statue, then chat with the man. Be sure to enquire about a special policy and tell him Burke sent you. When the man leaves quickly ask Joey to use his welder on the anchor. Pick up the anchor when Joey has finished.

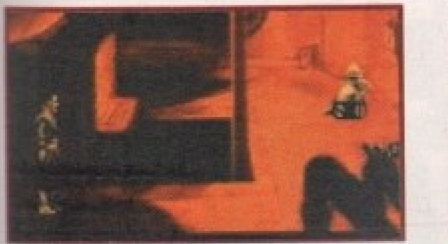
Leave and make your way to the top level again. Go into the building opposite the steam room and you'll find yourself back where you started. Go up the stairs and out of the door. Use the anchor with the cable to make a grapple and hook and use it on the Security sign on the wall of the facing building.

Go through the door on the right, use the card in the slot next to the interface and sit in the interface. Once you're inside LINC space, pick up the ball. Head out of the right exit. Use the open program in your inventory with the carpet bag and pick up the two items.

Use decompress with the compressed data and decrypt the document. Go through the right exit. Use one of your password programs with the floor then go right. Put down another password, go left, pick up the password, go up, put down, go right then



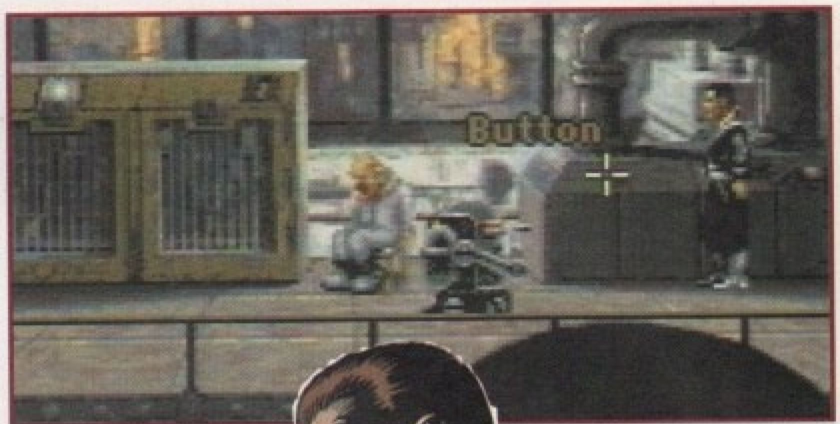
The lack of anywhere to go and the fact that the security guard is charging up the stairs forces our hero to hide behind the door



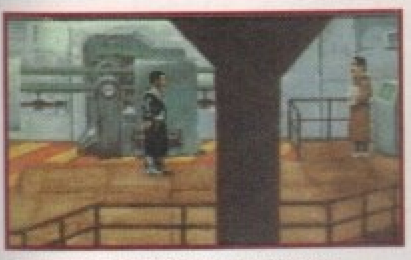
Our hero bumps into one of the guards, but with a fortuitous stroke of luck, the security camera chops him in half with a laser. Coo!



Inside the factory and you must find a new shell for Joey. Try talking to Anita for some clues, but watch out for Lamb the supervisor



Distract the old man by getting Joey to press the button on the right while you press the button on the left at the same time

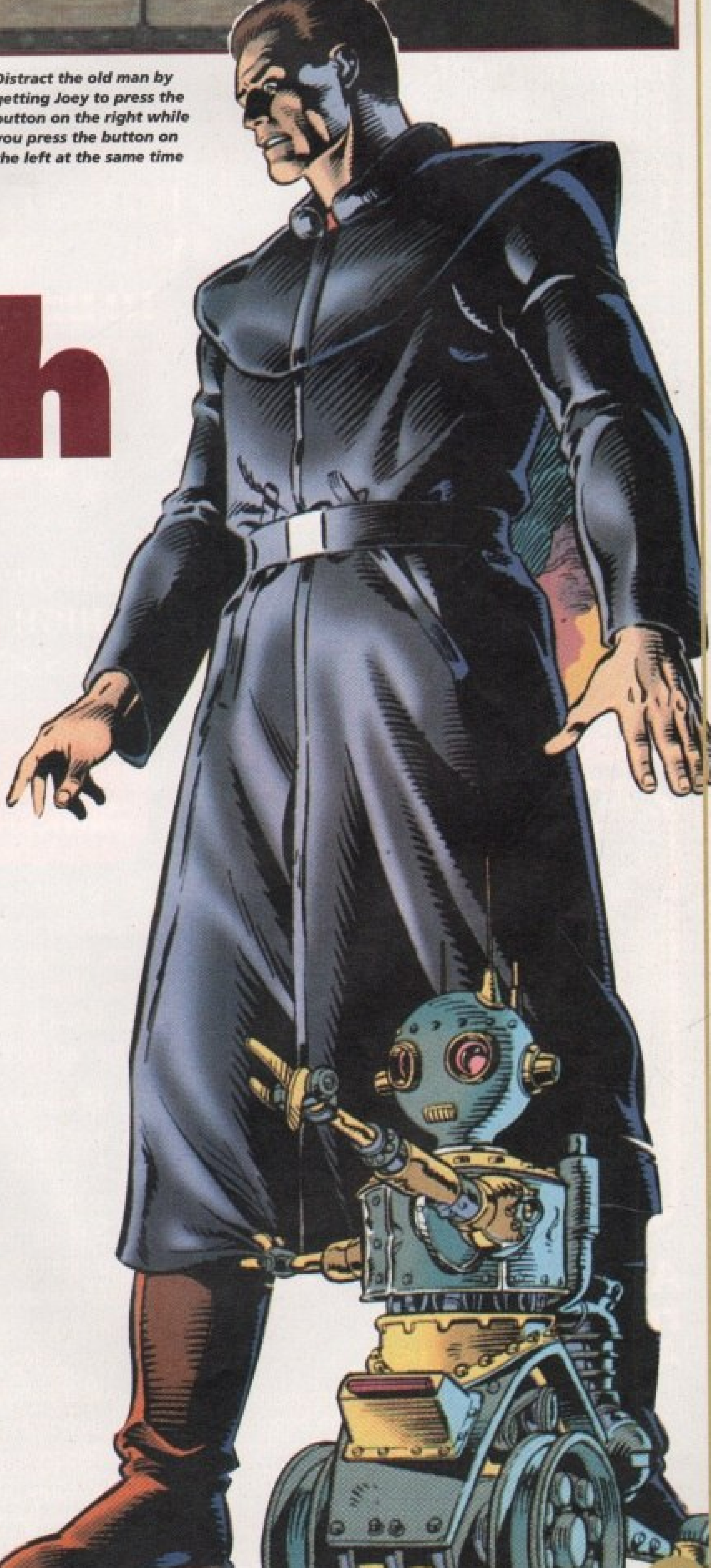


To progress on this screen why not try throwing a spanner in the works and see what that bloke off On The Buses does. Ta Dan!



Now this is a tricky bit, but by the wonders of modern technology I've managed to point out that all-important piece of putty

Beneath a Steel Sky Part 1



down, pick up, go up, put down, go left, pick up, go up then right, down, right, down, put down, go up, go up and then exit the room.

Once through, collect the bust and the book, then decrypt your new documents. Now disconnect from LINC space. Use your card with the LINC machine and select 4. Enter the Security number and select 1.

Read all the documents then select 0. Now select 2 and then 2 again. You now have special authorisation, so exit the system. Use the card in the slot next to the lift and enter the lift. You are now in the Security station. Leave and make your way to the other lift. Use it, then go left to the next lift. Your card will now be able to access this lift, so use it in the slot.

At the bottom, leave the lift and wait for the fat woman with the dog. Chat with her. Now go left and talk to the club doorman. Find the fat woman (Mrs Piermont) again and ask her to sponsor you. Go as far right as you can until you get to the screen with the boy and the gardener.

Press the button by the door on the right. Once inside, have a chat with Mrs Piermont. When she makes her telephone call, place the video in the VCR. While the dog is distracted, get the biscuits from his bowl, then leave and go to the bottom-left exit. Examine the wooden double doors.

Use your card on the lock and go through the door. Pick up the secateurs and leave. Go right and then go through the top-left exit. Use the dog biscuits on the plank and wait for Mrs Piermont to turn up with her dog in tow. When the dog starts to bark, pull the rope.

As the guard gets distracted, sneak into the cathedral. Go through the top-left exit and open all the lockers. Leave and go back up to the top level via the lifts. Enter the factory and go back to where you last saw Anita alive.

What will happen next? Well I guess that's up to you now, but if you're lucky enough, Part 2 of this guide will show up next month.

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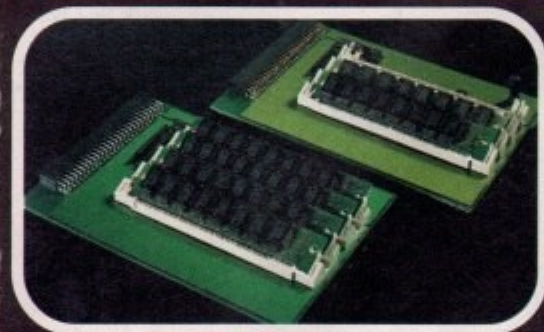
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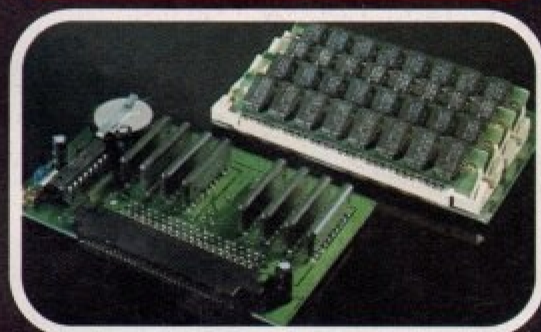
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INTRODUCTION

After being brought up in a Manchester City household, it should come as no surprise to you that I hate Manchester United with some venom. My early years were spent at Maine Road with my Dad enthusing about the blues, but by the time my brains started to work properly and after just one visit to Anfield in 1985, I soon turned my full attention to Liverpool Football Club.

Although I've seen them win the FA Cup, the League Cup and the Championship many times, not one of these tournaments can compete with a victory over the Red Devils. It's such an intense game between two extremely passionate sets of fans that it's a revered fixture across the world.

One thing I would swap for a victory over Manchester United would be the pleasure of another FA Cup and league double. Liverpool won their double in 1986, but Manchester United have since joined them with their dynamic run last season.

Both clubs have now had an equal amount of success, but Manchester United have ruled the roost in one certain area, the wonderful world of computer games. The Red Devils have had three games made about them while Liverpool have only had one and to be honest, it was rubbish.

Krisalis, holders of the Manchester United licence, have made a range of games that appealed to everyone, not just Manchester United fans. Krisalis' first two efforts looked really good, but both were slightly lacking in the gameplay department.

Their third licence, Manchester United Premier League Champions, was far better and featured a good mix of management and arcade action. Now they are back with another Manchester United offering.

This time they've tinkered around with and enhanced Manchester United Premier League Champions so much, you feel as though you're clutching a brand new game in-between your sweaty mitts. Although the game is titled Manchester United – The Double, it's not imperative that you play as the Red Devils or that you win the actual double.

Choose one of the clubs from any of the English divisions and either play a single game or go the whole hog and play season after season. Depending on who you choose.

Manchester United – The Double has got a very good chance of stealing Sensible World of Soccer's 'world's best computer footy game' title, but am I over the moon about it or just simply sick as a parrot?



Select any team from one of the English divisions (Premier, One, Two, Three and the Conference) and then head out on the rocky road of football management

GRAPHICS

On the surface, and while wandering through the various menu screens, graphically, Manchester United – The Double looks very similar to its predecessor, but I guess it's a case of if it isn't broken, don't fix it.

I quite like the icon system Krisalis have devised and after only a few minutes play you're soon whizzing all over in all the right places. It's very simple to use and because you can use the mouse as well as the joystick, this makes life even easier.

In Manchester United Premier League Champions the pitch was viewed from above, very much like the viewpoint in Sensible Soccer which in

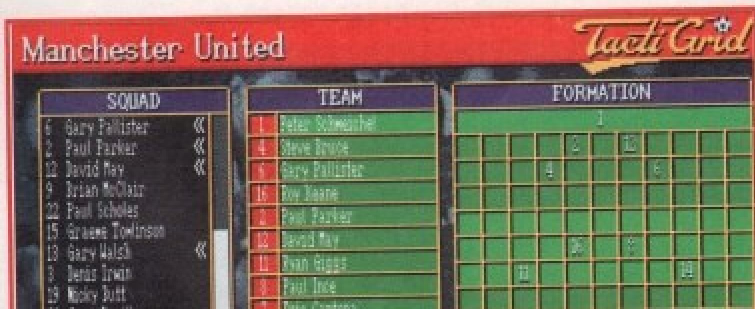
Manchester



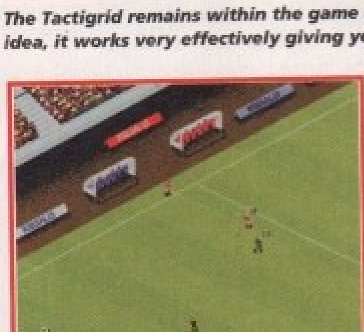
Get an assorted range of information on every player. I want to buy Keith Gillespie and at that price I think I've got my hands on a bargain!



Before you actually play a match, you can select your strip from the three available so you don't get any nasty colour clashes that confuse the referee



The Tactigrid remains within the game and although it's a very simple idea, it works very effectively giving you total control over your team



The new angle of the pitch has given Krisalis the chance to add a surrounding stadium.



Keane picks up the ball on the edge of the area, does a fancy dribble and then curls one round the keeper

ADDITIONAL INFO

Manchester United are, without argument, the team of the '90s, but last season will shine above all the others. 1994 was the year the Red Devils won the historic double, joining Tottenham, Arsenal and Liverpool as the only clubs to achieve such a feat.

United's league campaign kicked off against Norwich City at Carrow Road, and the reds returned back to Manchester having won 2-0 with goals from Giggs and Robson.

United went and demolished most of the teams in the Premier League with some breathtaking attacking football. The majority of goals were provided by Giggs, Cantona, Hughes, Ince and Kanchelskis, while at the back Pallister, Bruce and the safe hands of Schmeichel kept out the opposition.

In fact, United only lost four league games all season (twice to Chelsea and once to Blackburn and Wimbledon. The Red Devils won the championship and

turn caused some unfair comparisons. Krisalis have, for this new instalment in the Manchester United series, changed the arcade section by altering the viewpoint of the pitch.

The action is now viewed from a 3D perspective which is superior to the one found in Krisalis' last attempt. You now get to see far more of the pitch and the players, which allows you to build up better moves and play those inch-perfect passes with ease without fear of the opposition intercepting the ball.

The view of the stadium is a nice touch and adds more reality to the game. Last time around the game tended to lose itself within the confines of a totally 'green' screen and unfortunately seemed incomplete. The players haven't been altered very much, but that's not such a bad thing. Sensible Soccer features what you might call cartoon-like characters, but Manchester United – The Double shines above all it's competitors thanks to the quality animation and the minute detail that's gone into its sprites.

Graphically, I can't knock the game, so what can I do but give it 90 per cent. Manchester United – The Double is, quite simply, the best-looking and most realistic Amiga football game your money can buy.

90%



United – The Double

Due to their phenomenal success last season, the team of the '90s returns to the Amiga, courtesy of Krisalis.

Jonathan Maddock shoots for goal and promises not to mention the 'Eric' incident



had left nearest rivals Blackburn lagging eight points behind them.

The FA Cup, one of the most admired tournaments in world football, started off in January for United with a 1-0 win against Sheffield United, Mark Hughes scoring the all-important goal. United then decisively beat Norwich City, Wimbledon and Charlton Athletic on their way to meeting local rivals, Oldham Athletic, in the semi-final.

Scoreless after 90 minutes, the two teams went into extra-time in search of a winner. Oldham's Neil Pointon popped up from nowhere to score in the 106th minute leaving United with a near impossible task to turn the tie around, but with one minute left on the clock and with one of Mark Hughes' unstoppable volleys, United had managed to save themselves and set up a replay three days later at Maine Road.

The replay was a different story altogether. The previous match had been too much for Oldham and United waltzed to a 4-1 victory with goals from Irwin, Giggs, Kanchelskis and Robson. This set up a final against Chelsea a month later which United, in front of a capacity 80,000 Wembley crowd, totally dominated and came out as 4-0 winners courtesy of two penalties from Cantona and a goal apiece from Hughes and McClair.

The Red Devils returned to Old Trafford with the Premiership and the FA Cup, and although this is a story of great success, it could've been even more impressive! It's worth pointing out that United only missed out on the treble thanks to Aston Villa who beat them 3-1 in the Coca Cola Cup.

With United challenging hard for the Premiership and with an easier run-in of matches than rivals Blackburn, plus the fact that they're (at the time of writing this) in the final of the FA Cup, it's not implausible to think that the Red Devils might win the double again in 1995.

FLASHBACK

A trip back through the past and we arrive in April 1994 where we meet up with Krisalis' previous footballing effort, Manchester United Premier League Champions.

"Krisalis have produced an absolute scorcher of a football game. Goal and Sensible Soccer fans will want to have this game's babies. Buy it and float to football heaven."

That's what I warbled almost a year ago and although the game did fairly well, it seems the legions of Sensi fans were more interested in their forthcoming sequel than anything else.

Bit of a shame as MUPLC was a cracking little game aimed at true fanatics who had real passion for their football. Sensible World of Soccer is the game by which every other is judged by and one which every Amiga gamer should own, but for something a little different, Krisalis' third Manchester United licence is well worth a look.

The under-rated Goal, Wembley International Soccer and the Premier Manager series are just a few other football games worthy of a mention if Manchester United – The Double doesn't tickle your fancy.



Eric Cantona, the world's most controversial footballer, volleys one in from outside the box and leaves the keeper totally dumbfounded. Genius!



Liverpool get themselves a free-kick just outside the area after a disgraceful tackle by Steve Bruce. Rob Jones lines a shot up, but what's going to happen next?



The editor is a god-send, especially if your favourite club have a kit that looks like your granny's curtains.

SOUND

Manchester United – The Double contains some superb crowd sounds and samples. From the whistle that signifies kick-off time there follows plenty of chants and cheers from the terraces which go a long way in enhancing the overall atmosphere of the game.

I don't know whether the samples are linked to how good or bad the game of football is, but they do seem to get better when there's an incident or it's an action-packed game.

The only sound of any note is the tune that plays when you're wandering through the various menus, and I'm unhappy to report that it sounds terrible, plus there's no option to turn it off! The only suggestion I can think of is that you turn your TV/monitor down when you're managing the team and turn it up when you enter the arcade section of the game.

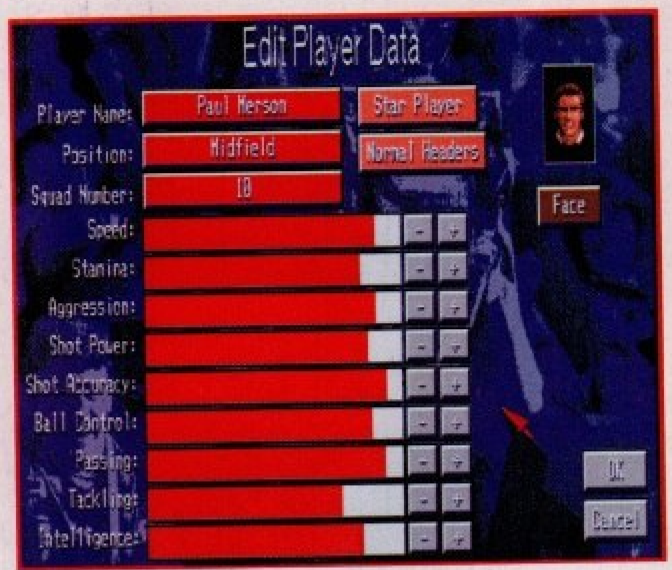
There you have it. Superb atmospheric crowd noises that enhance the quality of the game and a horrible tune that annoys the hell out of me.

I'm still quite undecided about what to give the sound in Manchester United – The Double, but reach for the volume switch at the right moments and you'll be contented enough.

70%



Publisher: Krisalis
Developer: Krisalis
Disks: 2
Price: £29.99
Genre: Sport
Hard Disk Install: No
Control System: Joystick/Mouse
Supports: A500/600, A1200/4000
Recommended: [illegible]



Via the editor you can also edit all the player details. I'm sure Paul Merson shouldn't have a speed rating as fast as that! What has he been doing?

ADDITIONAL INFO 2

One of Manchester United – The Double's biggest features is the inclusion of an editor system which allows you to change everything within the game, and this is sure to appeal to fans of Krisalis' previous effort.

The colours and style of the soccer kits can be changed at regular intervals, rather like Manchester United themselves, although unlike them you won't be exploiting your fans by placing a £40 price tag on some of your designer creations (Ooh controversial).

The game features all the clubs from the English league, but if you're a follower of football from foreign lands then you change everything accordingly.

Player's and club names can be altered, but to keep things running smoothly all the player's skills can also be changed. If you think the game is too easy, you can go into the editor and lower your player ratings to make things more difficult, and vice versa if you find that Manchester United – The Double is too taxing.

One of Manchester United Premier League Champions' outstanding features was the Tactigrid feature and this was such a brilliant idea that Krisalis have included it in Manchester United – The Double.

The Tactigrid lets you position your players anywhere on the pitch and gives you more control over your team. Fullbacks can be ordered to charge up and down the wing and support the attack, or defenders can be told to hold back and play like a sweeper – there are lots of ways in which you can, tactically, alter your team.

OPINION

90%

I enjoyed Krisalis' previous Manchester United licence immensely, so at first it wasn't too much of a shock when I found out that The Double is just as good, but I was pleasantly surprised when I discovered that it's actually far, far better.

The introduction of the new angle for the arcade section was a brilliant touch and one that elevates Krisalis' football game to join competitors such as Sensible World Of Soccer and Goal. Features such as the inclusion of a transfer market and the helpful editor system are all clever ideas that deserve to be applauded.

Fans of the previous Manchester United games will love this new addition to the Red Devil's family. It is a complete football package for people who are genuinely mad about the beautiful game.

One thing I will give you advance warning of is that you have to take your time and use a lot of your patience with the game. You will lose your first few matches and won't get the hang of the control system until you're nearing the end of your first season, but after that you will be able to sit back and have a wonderful time playing for and managing a football club.

Manchester United – The Double will last you a long time, mainly because you can alter the difficulty of the game up and down thanks to the editor. Sensible Soccer was a game that appeals to every man, woman and their dog, but Manchester United – The Double is a true football game for true football



fanatics everywhere. Krisalis have broken out from defence, played it beautifully through the middle, knocked it out to wing, gone round two of the opposition and delicately curled another golden goal, past the flustered keeper, into the top corner of the net.

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Shadow Fighter

INTRODUCTION

The beat-'em-up is now the world's most popular genre in the world of computer gaming. For the last few years they've been extremely popular with console owners simply because their machines are ideally suited for that type of game.

Amiga owners have had to put up with second-rate console ports. Street Fighter 2 and Mortal Kombat 2 are just a couple of examples where a game has been released upon the back of hype taken from all the console versions.

In February of this year, Gremlin Interactive released one of the greatest beat-'em-ups to ever appear on the Amiga. Okay, so it looked and sounded great, but it had it where it counts in the playability department. Gremlin have now taken their game to the CD32, but does it still kick ass?



Use the training puppet, Pupazz, to finely tune your natural beat-'em-up skills.



While you wait for the fighters to be loaded up you can read the information that scrolls down the screen

GRAPHICS

I sat back and took a good look at the screen in front of me while I was playing Shadow Fighter and I have to be honest it looks as good as anything I saw in the arcades a year or so ago.

The graphical changes aren't instantly noticeable, but the capabilities of the CD32 means the game has now got a proper lick of paint using all the proper colours. This gives Shadow Fighter a new quality to it and the other computer versions look dull in comparison.

The characters are all well-animated and they now bounce around the screen as fluidly as alcohol goes down the back of my throat. Shadow Fighter looked so good the first time around there wasn't a lot for NAPS Team to enhance for the CD version.

85%

Publisher: Gremlin Interactive
Developer: NAPS Team
Disks: 1
Price: £25.99
Genre: Beat-'em-up
Hard Disk Install: n/a
Control System: Joypad/Joystick
Supports: CD32
Recommended: n/a

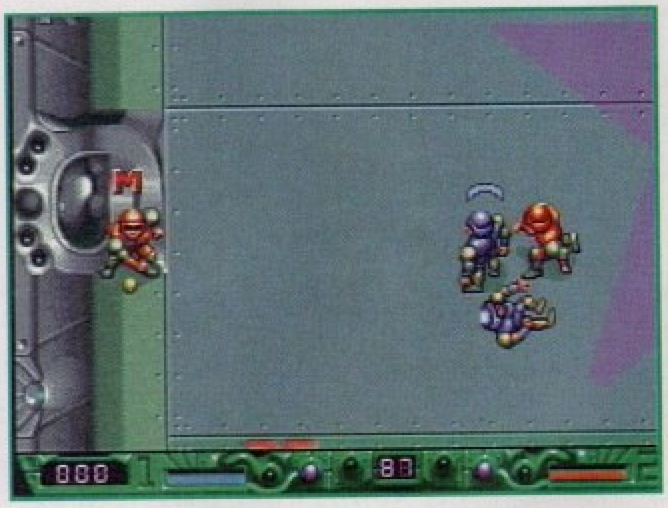
INTRODUCTION

There was once a time when the Amiga gamesworld was ruled by the high and mighty Bitmap Brothers. Every piece of software they released was blessed with high-quality graphics and sound, but they also made damn sure that playability and gameplay were far more important.

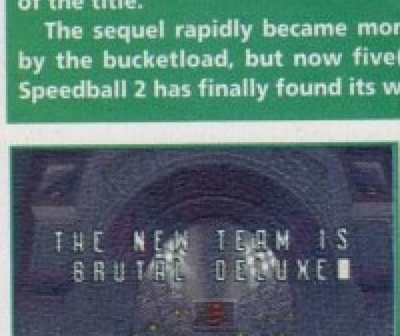
Games like Magic Pockets, Xenon 2, Gods, Cadaver and the Chaos Engine would, and still do, put some of today's efforts to shame. The first product that really kicked things off was Speedball. Taking its inspiration from the film Rollerball, this hyper-violent futuristic sports game soon became a firm favourite with just about everyone who owned an Amiga.

Not ones to miss out on a sequel, the Bitmap Brothers soon improved Speedball by making the pitch larger, the action faster and even more frenzied than before, and they stuck a massive great big 2 on the end of the title.

The sequel rapidly became more popular than the original and sold by the bucketload, but now five(!!!) years after it was first released Speedball 2 has finally found its way onto the CD32.



Head straight for the ramps at both sides of the screen when you kick-off. This will increase your points total when you eventually score



A shot from the introduction sequence which details the history of Speedball.



Use the gym to improve your players. Single out special players or focus your attention on your attack, defence and midfield

SOUND

In the past, Renegade and the Bitmap Brothers had close links with Rhythm King records and every so often used to use a well-known act to produce the music for their games. Betty Boo did the do on Magic Pockets while Bomb The Bass' Megablast made a starring appearance in Xenon 2.

Responsible for the Speedball 2 music were a band called Nation something or other by some bloke who used to be in Ultravox... probably.

Although I can't remember the people who did it, I can still remember the original tune, even after five years. It was a classic piece of computer game music and for this CD version it's been remixed and now sounds a lot clearer than the original.

The other slice of music that plays while you're managing your team isn't too good, but the introduction of crowd chants throughout the game has given Speedball 2 a much-needed boost in the atmosphere department.

Overall, you get a quality intro tune, a drab in-game one and a superb array of sound effects that genuinely enhance the game.

80%

CD32

You can keep your Street Fighter and may as well chuck Mortal Kombat away because Jonathan Maddock has got his hands on a CD version of Gremlin's superb beat-'em-up

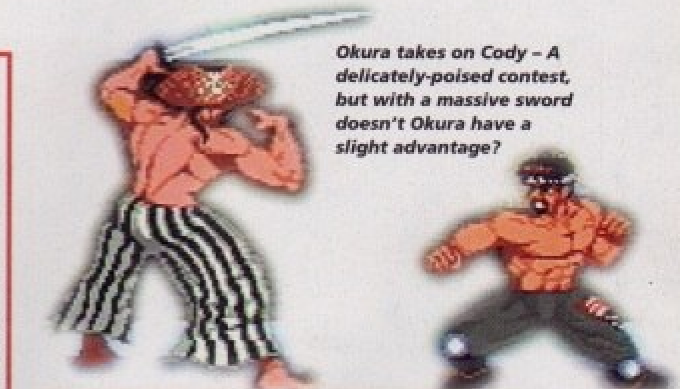
SOUND

I hate the majority of computer game music and even though Shadow Fighter features loads of different tunes, there hasn't been one that's got on my nerves yet.

The range of tunes are superb and sound like they belong in the 1990s and not the 1980s. Most of the tunes are laden with breakbeats and this tends to make the game seem even more action-packed than it already is. This CD version of Shadow Fighter features the same musical masterpieces you'd find in the floppy disk version, but thanks to the wonders of CD technology they now sound a lot clearer and all the better for it.

You can still choose between music, background music and sound effects, but whichever you decide upon you won't be disappointed with your choice. The sound effects still impress and the tunes still roar out of your monitor, so I don't have any major complaints about the sound in Shadow Fighter, but maybe an extra couple of tunes for CD owners might have boosted the score a tad.

80%



Okura takes on Cody – A delicately-poised contest, but with a massive sword doesn't Okura have a slight advantage?



OPINION 91%

I raved about Shadow Fighter when it first came out and I still firmly believe that it's the best Amiga beat-'em-up money can buy.

This new CD version, with its slight graphical and sound enhancements, just makes the game better and better. Gremlin Interactive have managed to take a home computer game and magically transform it into an arcade game of the highest quality.

One thing that still remains in the game is the difficulty factor. You can accuse me of being past it and over the hill, but the completion of a Shadow Fighter championship seems nigh on impossible, even on the easiest level.

If I am right about the difficulty level and not just naturally rubbish, then at least you get your money's worth in the lastability department. Shadow Fighter was thumping good fun last time around, but it's now an absolute knockout.

AMIGA PLATINUM AWARD

Speedball 2 CD32



One of the world's best-ever Amiga games makes its debut appearance on the CD stage. Jonathan Maddock checks out the sport of the future

GRAPHICS

The original graphics for the game were inspired by Rollerball and for anyone who hasn't seen the film, the Bitmap Brothers included loads of shiny surfaces, plenty of metal, hundreds of spikes and basically gave the whole thing a futuristic lick of paint.

Speedball 2 was, graphically, amazing when it first arrived on the A500, but this is now the era of CD technology and I guess gamers are looking for that little bit extra. However, I'm glad the Bitmap Brothers haven't changed things too drastically. The original colouring was fairly drab, but now the actual Speedball players have been enlarged slightly and brightened up. There aren't any special graphical updates, but it seems as though most objects and menu screens have been refreshed for the nineties.

I can't really knock Speedball 2 because everything looks really good, but a new introduction sequence would've been a worthy inclusion, especially with the advancement of today's technology.

85%

Publisher: Team 17
Developer: Bitmap Brothers
Disks: 1
Price: £14.99
Genre: Future sports
Hard Disk Install: n/a
Control System: Joypad/joystick
Supports: CD32
Recommended: n/a

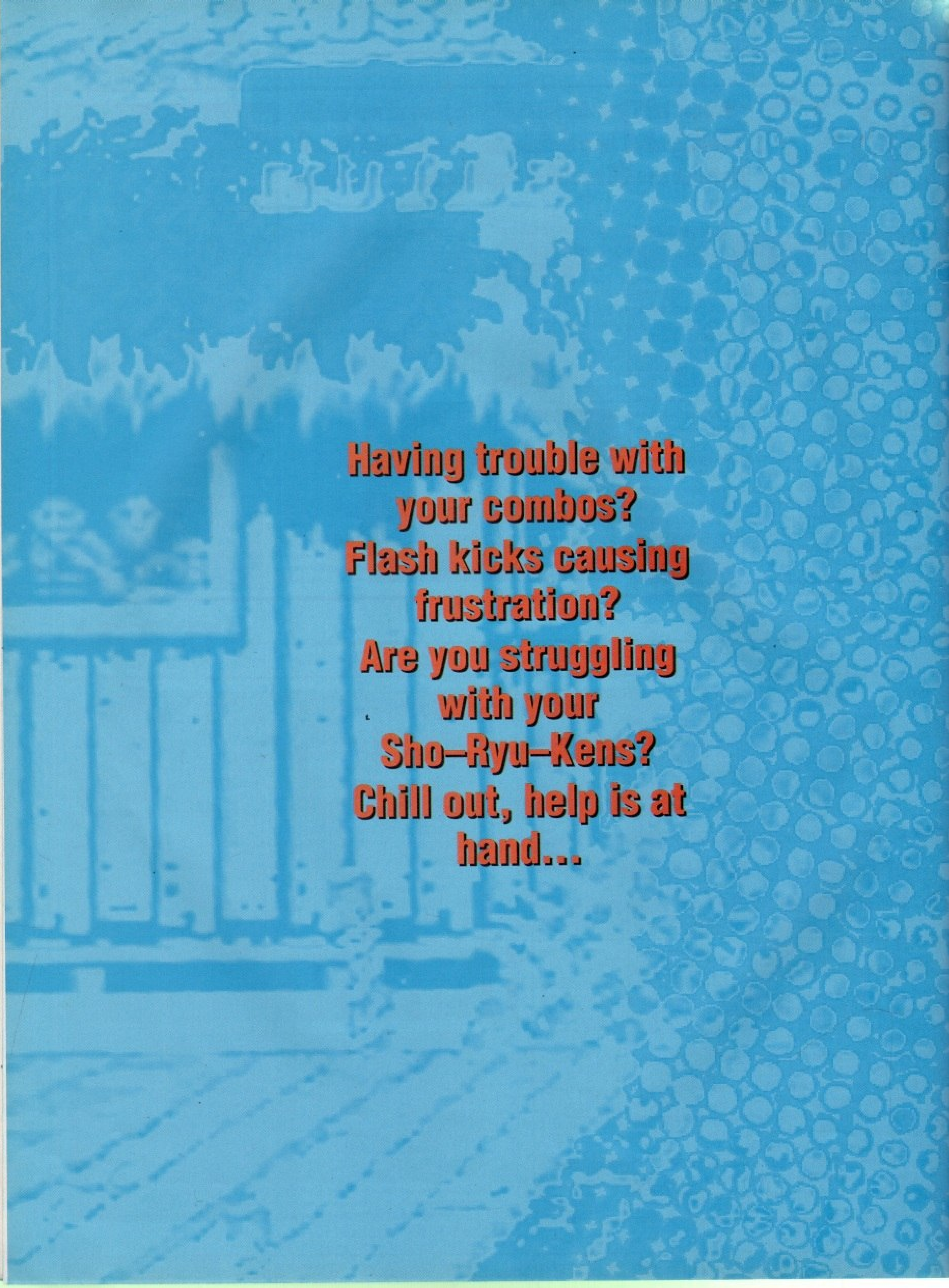
OPINION 90%

Even after playing Speedball 2 for a couple of hours, I've still got the same feelings for the game I had five years ago. The Bitmap Brothers have created a monster of a game that works just as well as a one-player game as it does with two players.

The original gameplay, playability and addiction factors that the game contained haven't been tampered with, but the enhancements in the graphic and sound departments have actually made this CD version better than the original.

CD32 owners may have been bereft of true great games for their machine, but this one starts to re-address the balance. Speedball 2 is an absolute classic and for only £15 I pity the people who are stupid enough not to own a copy.

AMIGA PLATINUM AWARD



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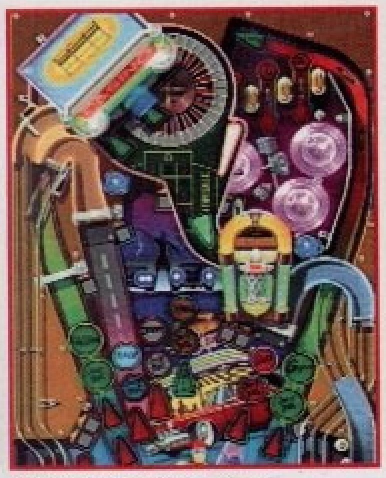
INTRODUCTION

Digital Illusions are *the* name in pinball games and have more than earned their reputation through their series of top-quality titles. Pinball Dreams was the one that started the ball rolling, so to speak, and gamesplayers thought it couldn't get any better – but it did when Pinball Dreams appeared on the scene a while later.

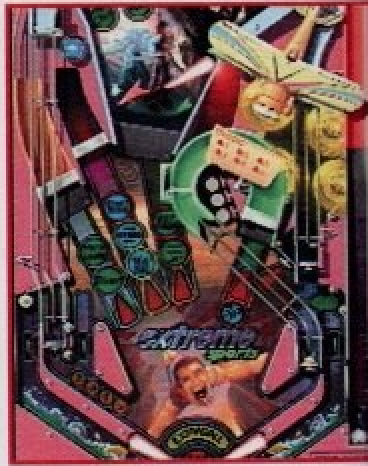
The third in the series struck and again it amazed, especially with the addition of a multi-ball feature. Now it's here for the CD32 with a full 60 minutes of in-game audio. Flippers at the ready...



The hi-res mode allows for more of the table to be seen and really helps with handling the multi-ball



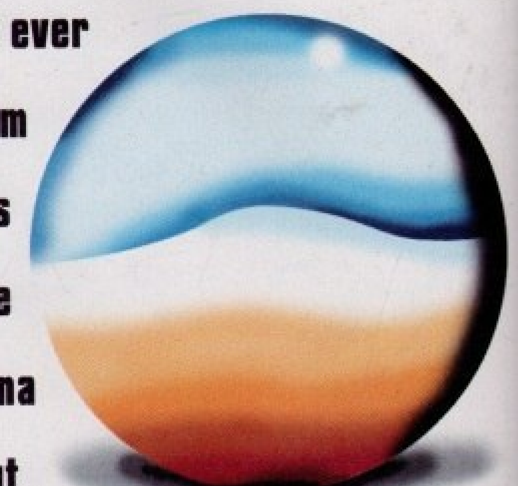
Try your luck in the Casino and win one of the available bonuses



Lots of objects give the table depth and a realistic 3D feel

Pinball Illusions

The greatest ever pinball game from Digital Illusions is here for the CD32. Tina Hackett flips out



- Publisher: 21st Century
- Developer: Digital Illusions
- Disks: 1CD
- Price: £29.99
- Genre: Pinball sim
- Hard disk install: N/A
- Control: Control Pad
- Supports: CD32
- Recommended: CD32

SOUND

Forget cheesy, dated soundtracks that many computer games suffer from. This game comes complete with a fresh, bang up-to-date approach that will have you turning your monitors up.

Each table has a different accompanying tune such as Law 'n' Justice with a Terminator-like track that conjures up the theme of the table brilliantly. This is the same for the other two tables. The Babewatch table is reminiscent of the Beach Boys, with a distinct sound of the surf, and Extreme Sports – this was a real surprise in a computer game – is a grungy rock tune which really goes with the table.

Digital Illusions have ensured there is a musical genre in there to suit everyone's taste and all work extremely well.

85%

GRAPHICS

The quality of the graphics is also exceptional. Babewatch (as you can imagine) is adorned with some bikini-clad girls and their muscle-bound companions. Other American-style pictures are used too such as Jukeboxes or big American cars. At the top of the screen is a Casino which looks good and provides one of the missions.

But what really amazes is the amount of detail packed onto each table. Extreme Sports, for example, has an aeroplane for parachute drops, and even in the tiniest corner of the table there's an action-packed picture of some skiers.

Law 'n' Justice has a striking picture of a gun-toting cyberchick and a motley crew of perps that light up in connection with a variety of features.

The most impressive point about Digital Illusions pinball games is their success in bringing a 3D feel to each of the tables. Ramps wind around the play area weaving over and under each other to give an authentic appeal. The ball also looks and behaves realistically.

82%

OPINION **82%**

This is one damn fine pinballer it has to be said, and CD32 owners have a treat in store with this title. The graphics are superb and very authentic, and the soundtrack original. The ball looks and moves realistically and the many missions provide longevity.

The sub-games are a welcome feature too. The Law 'n' Justice table, for instance, has a mission to shoot the terrorists by moving your flipper keys. The multi-ball addition is also excellent, and the table can switch to hi-res to enable you to see more.

One thing I wasn't too keen on was the way the control system was implemented. The CD32 controller (as you know) has plenty of buttons that can be used, but the way this is done seemed really illogical. For example, the left flipper was left on the directional button and the right flipper was the blue button. The resolution switch was also on the directional button and was too easy to press accidentally. This may sound quite major but once you get used to it, it doesn't detract from what is otherwise an excellent game.

This is a great title that's absolutely stacked with highly addictive gameplay. Pinball wizards everywhere should rush out and buy it!

AMIGA GOLD AWARD

Award Winners Platinum

INTRODUCTION

As part of their Award Winners' series, Empire Interactive have put together another bargain bundle of three classic games for only £34.99. This, their Platinum Collection, contains Sid Meier's excellent 'God' game, Civilization, Psygnosis' furry puzzler, Lemmings, and David Braben's space epic, Frontier: Elite 2. All classics, I'm sure you'll agree. So there seems little for me to actually say about these games that you don't already know but, for a quick reminder....

What happened to the ground-breaking games of yesteryear? They're back and at a bargain price too. Tina Hackett gets thrifty

- Publisher: Empire Interactive
- Developer: Various
- Disks: 7
- Price: £34.99
- Genre: Various
- Hard disk install: Frontier/Civilization
- Control System: Keyboard/Mouse
- Supports: All Amigas (1Mb)
- Recommended: 68000 upwards

CIVILISATION

This collection also houses Sid Meier's highly acclaimed strategy game, Civilization. You play the ruler of a civilisation, ranging from the world's first cities to the colonisation of space. At first your colony is small and from your decisions and ability as a ruler, success or failure will result. To win the game you must either see off all your rivals or last out until the colonisation of space begins.

Starting from the basics, you have to allocate citizens to work the farmland or mines. They then turn the raw materials into goods – this establishes the industries and you can then begin trading once trade routes have been established. You can also instruct the cities' wise men to discover new technology such as Iron Working. Advisors are on hand to impart their wisdom on matters such as trade or science, and Diplomats can be placed in Cities to spy, establish embassies or if you're feeling particularly vindictive – try some industrial sabotage. Wars can be waged but, while you can capture cities, they can be costly.

Civilization is arguably one of the best 'God' games around and provides a great, in-depth, but fun, strategy title.



Civilization has plenty of useful information to help the novice ruler

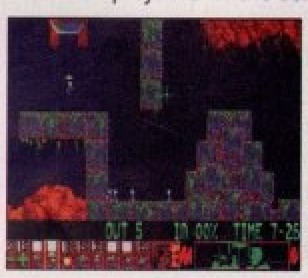
LEMMINGS

If you've not experienced the joys of Lemmings yet, I wonder if you've been kidnapped by aliens for the past few years! The furry critters are now on their third outing (not counting any holidays in between!) and have brought many hours of fun and plenty of frustration to millions of gamers.

The idea – this is pointless because who on earth doesn't know about Lemmings? Okay, for Mr C. Braithwaite from Hull, here goes. You have a tribe of small, green furry creatures whose mission in life is to kill themselves. And it's your aim to save them from their impending doom.

To do this you can give your Lemmings a variety of skills to stop their path of self-destruction. To get them safely to their base, you may, for example, need to turn certain ones into diggers to get through rocks, or climbers, or blockers to stop their fellow tribe members falling into treacherous ground. Graphics revolve around the cutesy approach and puzzle gameplay, with small but well-animated sprites, and the levels all have a different, well created, setting to provide variety. Each level is accompanied by a jolly little tune, and various Lemming sayings such as "Oh no!" or "Let's go!" all add to the fun atmosphere.

The original Lemmings has been cited by some as the most playable in the series and if you've not tried it before you will find you've got one hell of a taxing game on your hands.



Save the not-so-bright creatures from their doom by allocating them different skills

Frontier: Elite 2

David Braben really started something with his space combat/trading game, Elite, and it acquired a huge following. Some time afterwards, a sequel was spawned with vast improvements on the original. A third release in the series is in the pipeline and, well, this is the middle one!

The game puts you in the role of a budding space cadet and it's your mission to travel the galaxy, trade your wares and avoid enemy attacks. As well as successfully piloting your spaceship, you can trade in various goods, whether legal or not! Combat with other ships may be inevitable too, but you can get a good range of equipment to help you see them off.

Frontier: Elite 2 has just so much to it, it will take ages to master. It's all conveyed through some great 3D polygon graphics and a very detailed and accurate space environment. A great mixture of action and tactics makes this a highly addictive combination.



Your basic spaceship can be upgraded as the game progresses

OPINION 85%

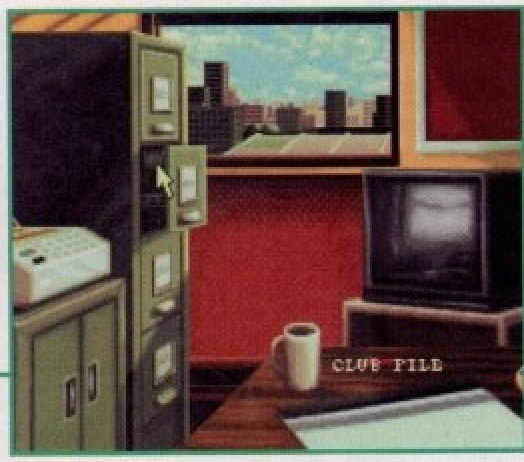
This is a first rate compilation that contains a good variety of games. None of them look in any way dated and if you missed them all first time around, I thoroughly recommend you get your hands on this bargain bundle.

AMIGA GOLD AWARD

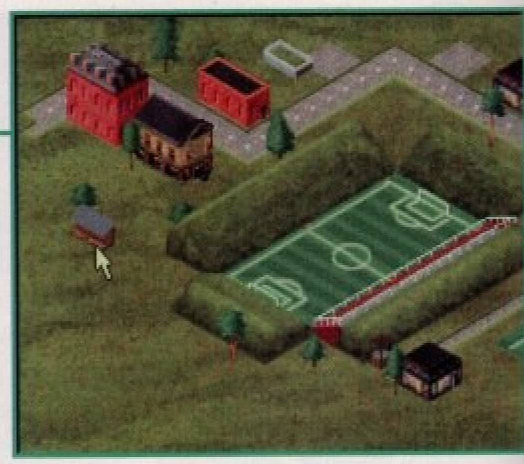
INTRODUCTION

Footy fans will be cheering. Non-footy fans will be holding their heads in their hands in despair! Yes, it's another football management sim but before you switch off – this one is different I promise.

It's by Impressions, yes those people behind rather serious strategy games, but it promises the same attention to detail as their other games – plus a novel twist! As well as having a full business game, you have the opportunity to play underhand should you so wish.



Your plush office where you make all your important decisions



An aerial view of the ground allows you to see how your stadium is progressing and lets you access other areas

Ultimate Soccer

FLASHBACK

Where do I start with this one? There are just so many football management sims I could compare this to. However, this is really in a league of its own (if you'll excuse the pun!). The nearest game I can think of that's close to this is Ascon's On the Ball which had both a World Cup Edition and League Edition. This was another visually superb game which went for a less text-based approach. However, it doesn't have as much to it as this.

Other management games that spring to mind are the excellent Premier Manager series and Domark's Championship Manager. Both have been well received and proved highly popular, and both have quite a statistical angle which more serious gamers and those that have a good knowledge of football enjoy. Impressions, while retaining a good deal of realism and detail, have opted for a more fun approach. This will give it a wider audience, appealing to both footy manager sim junkies and those normally disinterested in the genre.



As your club becomes bigger you can improve parts of your ground such as the stadium seating



The advertisers provide a steady source of income

Publisher: Daze Marketing
Developer: Impressions
Disks: 2 (A500), 3 (A1200)
Price: £29.99
Genre: Sports Management
Hard disk install: Yes
Control system: Mouse
Supports: All Amigas (1Mb+)
Recommended: 68000 upwards

FLASHBACK

Football management games are notoriously sparse in the sound department and this has often been justified with the reason that this kind of game 'doesn't really need any.' This maybe so, but I think it really adds a lot more atmosphere and realism to the proceedings.

However, the background music is far from brilliant and in fact it becomes almost depressing. But thankfully, you can turn this off and choose the rather excellent sound effects instead. Click on the newspaper and you get the realistic crinkling of paper, or make some ground improvements and a building noise starts.

The actual match sounds are good too, from crowd cheers to the ref's whistle. These may all appear superficial and unnecessary but they really compliment the action well.

75%

GRAPHICS

Unlike some other management games, this is far less text based and uses a variety of beautifully drawn screens and animations. As the stadium development plays an important part, you get an aerial view of the pitch and surrounding area. As it progresses you get to see how your stadium develops. This screen also has a practical purpose and allows you to access other parts of the game such as the training ground or the bank.

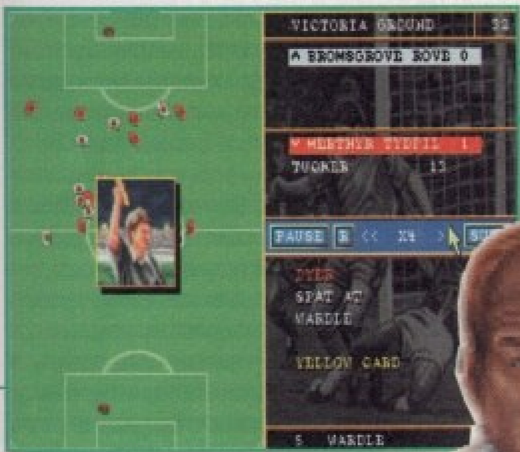
The other characters you meet add a nice touch too and rather than having to work from a screen full of numbers, you actually get a background of a bank and a picture of the manager. This is the same for the Chairman, and both have been nicely animated and actually talk to you (well, speech bubbles!) which really gives more of a human angle.

However, despite the high quality in other areas, I felt the actual match day graphics were very poor. You are given an overhead view of the pitch and the sprites are tiny, indistinguishable blobs. But what it lacks in graphical grace it makes up for in being rather practical. You can see how your formations are working out and change tactics accordingly.

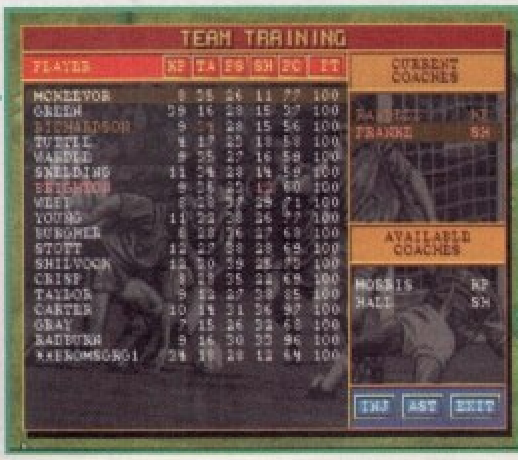
A Teletext system provides you with plenty of important information and looks like the real thing – complete with Fastext buttons, which all add to an authentic environment.

Other animations such as the paper coming out of the fax machine or the file drawers opening when you click on them all make for a highly polished product.

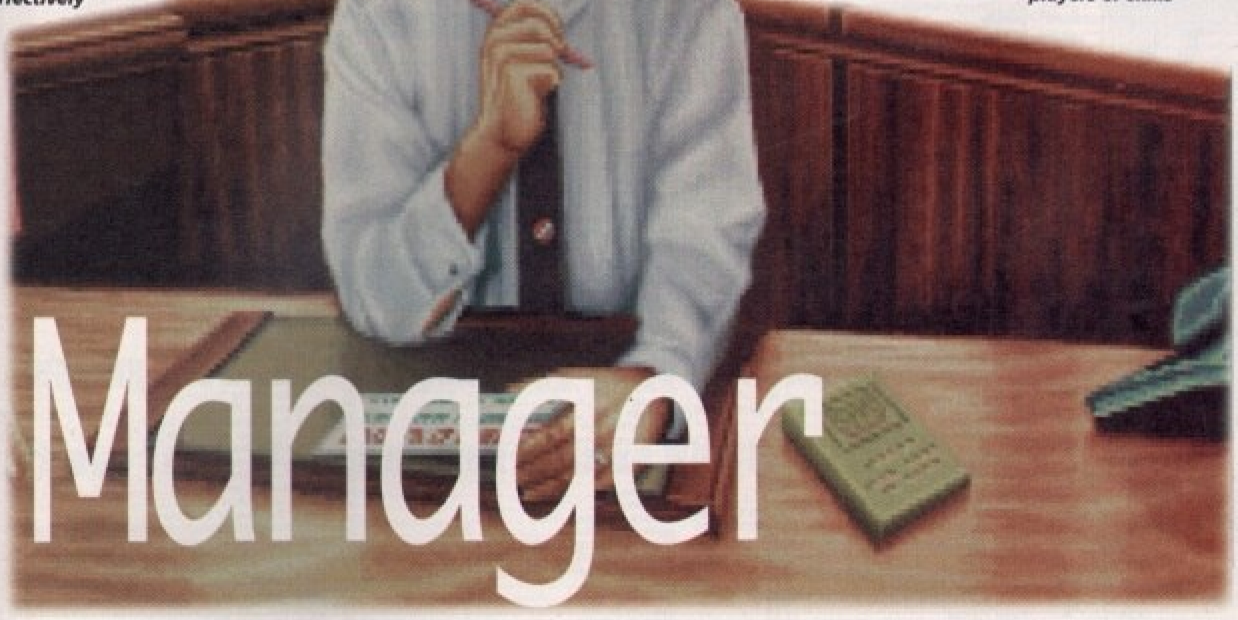
85%



The actual match view is rather small but it does let you assess progress effectively



Team training is highly important. You can allocate different coaches to particular players or skills



Manager

Tina Hackett takes a look at Impressions' venture into the football management world which could reach the parts other games of this type have failed to reach



This rather serious fellow is your bank manager – it's worth keeping him sweet



The newspaper reports are helpful. Oh, and we've just been slaughtered 4-0! Never mind, can't win 'em all

OPINION 83%

There have been plenty of good management games around of late and I was slightly sceptical when yet another arrived on my desk. However, this is one quality title and thankfully it's different from all the others – and what's more, it's fun! Although it isn't packed with stats it gives you plenty of details to enable you to make informed decisions, and the more serious side still works very well.

What really makes it, though, is the additional business game and the dirty tricks side. The graphics are also exceptional and you get a better sense of realism, especially with the clever way you can access the information from their 'real-life' homes (e.g. the team list on the notice board) which adds variety.

The whole game comes across as extremely polished with great attention to detail. Highly recommended to both fans of the genre and those that would normally give this a wide berth.

AMIGA GOLD AWARD

PLAYABILITY

There are millions of features in Ultimate Soccer Manager and it would take me many pages to tell you about them all. But what I can do is highlight some of the more innovative, and those that work particularly well.

One new slant to the genre is the way the game approaches the seedier side of football. For instance, if things aren't going your way or you simply want to play dirty, you can offer bungs to another manager if you are having trouble signing one of his players. And if things are getting really desperate, you can rig a match by offering the opposing team a large sum of money. A word of warning though – the FA may investigate your dealings and you risk losing your job or your liberty.

There is an excellent business sim option and if you choose to play with this option on you will be able to build your own shops, stalls and restaurants. Your supporters must have access to the buildings – they're not much use if no one can get to them – so roads need to be built around the stadium. You'll also have to set merchandise prices and make sure your catering costs are competitive.

Your financial decisions can have a marked effect on the outcome of the game though, and you'll have to make sure your money-making skills are up to scratch. However, you can turn this facility off and let your assistant manager handle this side for you should you want to concentrate more on the actual football. The bank manager needs to be dealt with too, whether it's to apply for a loan or make use of a high interest account, and it's worth staying on his good side if you need money for a top class player later on.

Depending on how difficult you want the game to be, you can have varying amounts of starting cash, from £250,000 to £5,000,000. The team you choose will also affect this, for instance you can start with teams from the Premier League such as Manchester United, or one of the lowlier teams from the Conference League.

On the actual team side, you'll have to make sure your squad are on form and are receiving the proper sort of training. You can choose which coaches you want to employ and allocate them to work on players' particular skills. It's worth employing a good coach but those available to you will depend on the club's status and also on the information they receive from your current coaches.

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SM005 Card Sharp	1.25
SM006 Sub Attack	1.25
SM007 Roulette	1.25
SM008 Act Of War	1.25
SM009 Micro Market	1.25
SM010 Strategic Games	1.25

INTRODUCTION

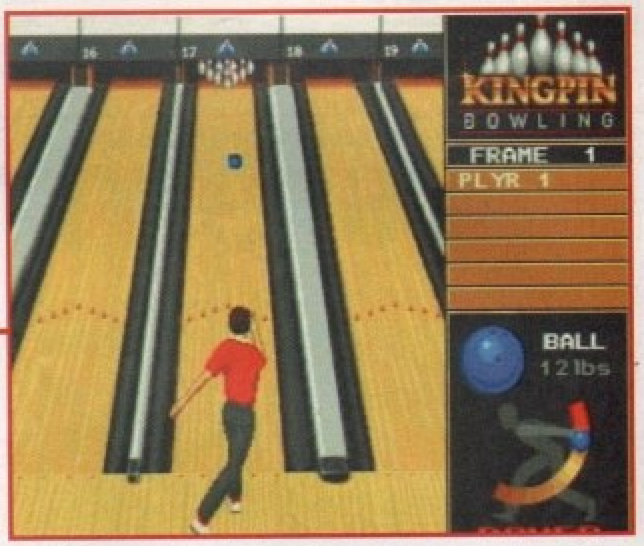
Completely by coincidence I happen to be going bowling tonight and, being totally out of practice, Team 17's bowling sim couldn't have arrived at a better time. Now I can sharpen up my skills and impress my team mates with a 300-score pummelling. Okay, that's unlikely to happen but at least it gives me a chance to get some practice in without the awful risk of slipping on my behind from accidentally stepping over the foul line!

The more astute among you will be thinking 'Kingpin again? Didn't they review this ages ago?' 'Aha,' I say knowingly, 'Yes we did, but this is for the CD32!' And for £14.99 it seemed like too much of a bargain to pass up on – especially as our previous review rated it 88 per cent and a Gold Award. So we take yet another sneaky peak at the game that promises all the fun of Ten-Pin bowling without having the embarrassment of wearing those awful clown shoes.

- Publisher: Team 17
- Developer: In-house
- Disks: 1 CD
- Price: £14.99
- Genre: Sports sim
- Hard disk install: N/A
- Control system: Joypad
- Supports: CD32/Compatible CD-ROM
- Recommended: N/A

kingpin CD32

Enjoy the wonders of Ten-Pin bowling without leaving the comfort of your own home. Tina Hackett thinks Team 17 have scored a strike with this one



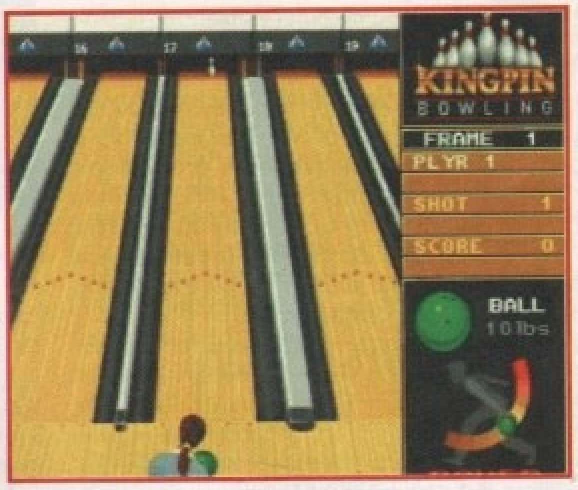
With style and panache, I aim the shot to hit the pins smack in the middle

SOUND

The sound of the original was pretty damn impressive and what it didn't have in pounding backing tracks, it made up for with totally atmospheric samples taken from a real bowling alley. This version has been enhanced and therefore obviously sounds better, and the whole sound package works really well from the receptionist announcements over the tannoy to the balls hurtling down the alleys.

Other nice touches include the authentic smack of the skittles as your ball hurtles into them at full pelt, or the background cheers for Strikes and the like. All are very realistic and conjure the atmosphere brilliantly.

87%



The Spares Challenge lets you try your hand at knocking down 'splits'

GRAPHICS

The graphics are also highly realistic (as much as they can portray a whole bowling alley on screen anyway) and every attention to detail has been paid, from the polished lanes down to the hideous shoes. The players are well animated and move with fluidity and the balls move like you would expect in the real thing.

The developers have ray-traced the pins in nearly 400 positions to accurately display the real thing, and it looks very impressive. The machine that picks up the pins and resets them (forgive me if I don't use the technical words) is even included, adding to that all-important sense of realism.

There's also a computer screen layout which displays your scores – just like in the real thing. All the screens are well set out too and it's easy to see how to set your power or how many points are scored. However, the arrows that allow you to line up your ball are a little on the small side and it would have made life easier if they had been made slightly more prominent.

72%

OPINION **89%**

Fun, original and addictive are just three of many adjectives of praise I could heap upon this title. Okay, it's certainly not the best or advanced title in the entire world, but for a highly enjoyable multi-player game you couldn't do much better. There are many small touches added that make Kingpin as realistic as possible and they work brilliantly. You will even have to consider such things as how much wax is on the lane and how it will effect play – even the fact that it will wear off during a game.

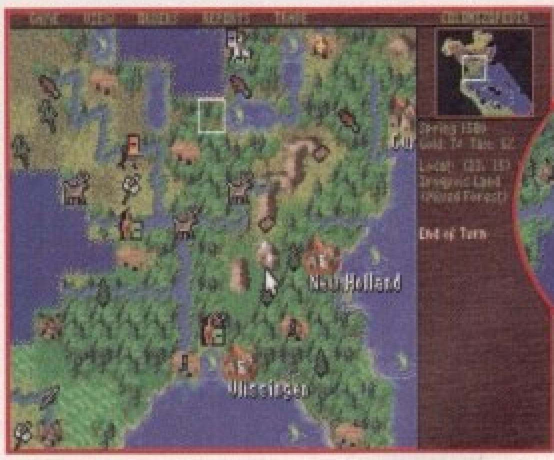
AMIGA Computing GOLD AWARD

The different views of the match have been well executed using a long-range angle of the lane when you start to bowl, then a close-up of the pins when the ball approaches them. This adds some element of tension to the game, especially as the pins wobble and shake as they would in the real thing.

Kingpin has plenty of options to tailor the game to your taste. There is a nice feature which allows you to practice your skills at knocking down 'splits' in an arcade challenge, or you can play a match in pairs or in teams of three. And don't worry if your bowling skills leave a lot to be desired because you can add a handicap to a player to even up the competition.

The CD32 version obviously employs the control pad which I found to work a lot better than a joystick. Each button has a different function so you can change the weights of the balls, alter the power, and set up your shot easily.

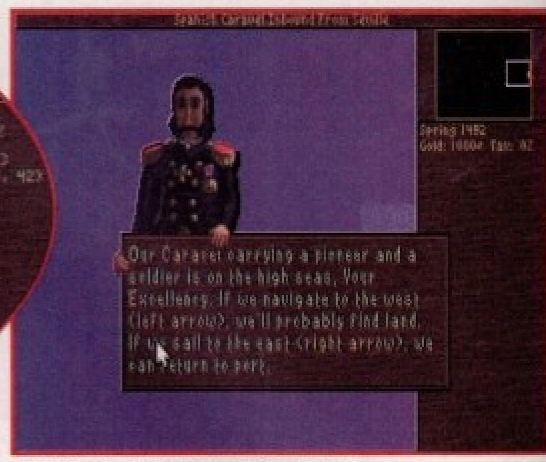
All in all, a high quality product packed with tonnes of detail, and one which is guaranteed to provide hours of entertainment.



As you move around, more of the terrain becomes visible



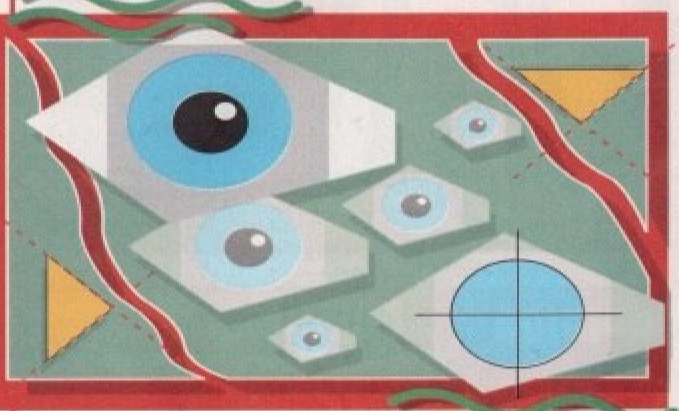
You need to set up trade routes between ports



Certain characters appear throughout the game with helpful hints and tips

system preview

Colon



If imperial power mongering in 18th Century America is your cup of Boston tea, then Sid Meier's latest title is for you. Tina Hackett takes a look

Mention the name Sid Meier to any games player and they will come up with a host of hit titles such as Civilization and Railroad Tycoon. Just recently, the strategy-meister himself has had great success with his latest title, Colonization, for the PC. Needless to say then, that us Amiga owners were feeling slightly neglected thinking we might miss out on one of Sid's classics. However, fear not, because together with MicroProse, the game is coming to the Amiga. And soon!

Okay, so what is all the fuss about? Well, it all looks rather intriguing for starters. I shall describe... You are the Viceroy of the New World and have been sent to establish new colonies. Your priority is to survive with little resources other than very basic tools and a limited food supply.

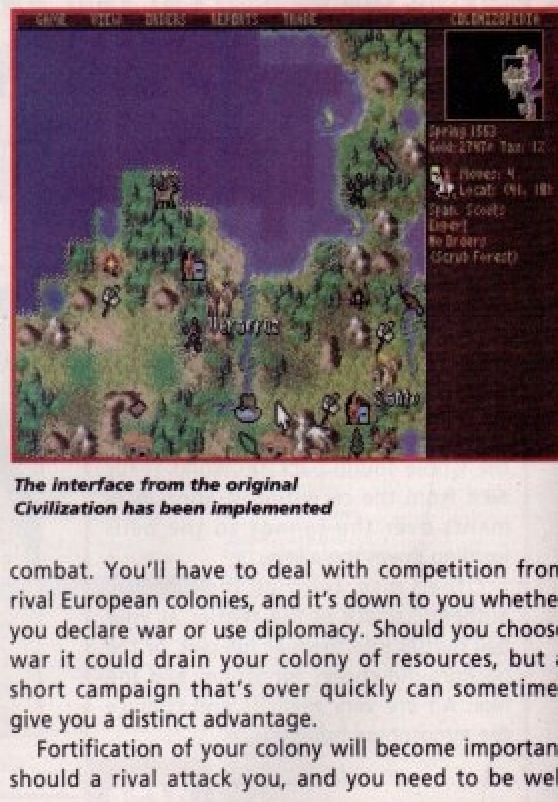
You can play the game in two ways, either with a geographically accurate scenario or with one that is randomly generated each game. You control the colonists and issue them with specific instructions on where to build or explore, and each can be given a skill beneficial to the colony.

Although this is not a sequel, players of Civilization will find Colonization has many of its predecessor's features included. Much of the original game engine has been used and you'll also find that the familiar user interface has been included. Colonists, troops or ships can be moved vertically, horizontally or diagonally across tiles over land or sea, and as you move, more of the terrain becomes visible.

Before you start you choose your nationality from English, French or Spanish, and each has a special power or condition that has a fundamental effect on the game. The Dutch, for example, have a more stable economy and you'll find that trade prices in Amsterdam are more consistent.

You are competing against a series of opponents and play in turns. To win you must declare and win independence from your mother country. All your developments in building, manufacturing and growth of your colony will have to withstand the forces of the crown. There is a vast range of things you can do in Colonization and tasks vary from establishing trade to combat. You'll have to deal with competition from rival European colonies, and it's down to you whether you declare war or use diplomacy. Should you choose war it could drain your colony of resources, but a short campaign that's over quickly can sometimes give you a distinct advantage.

Fortification of your colony will become important should a rival attack you, and you need to be well



The interface from the original Civilization has been implemented

Don't know much about history....

Colonization is set in a time steeped in rich history and notorious episodes. It is important to understand the background to the game because it is closely tied-in to the events of the time.

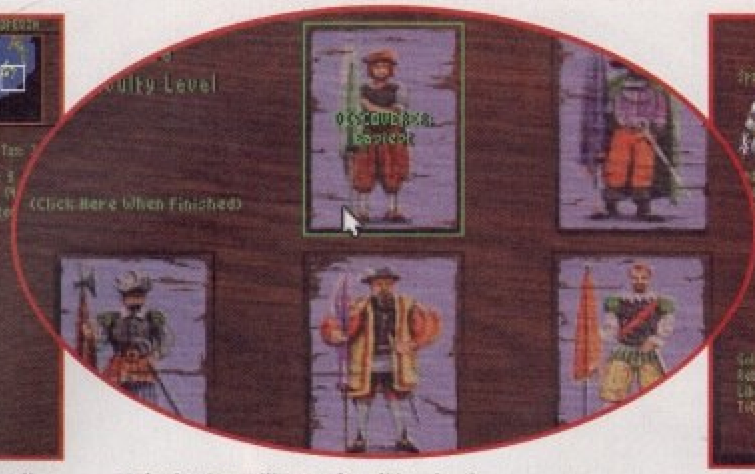
The game takes place in the Americas between 1500 and 1800. The period starts with the explorer Christophe Columbus who discovers a land in the Western hemisphere. It was given the name 'New World' and Columbus believed he had discovered islands off the coast of Asia. He was wrong, but what he started was the colonization of the Americas.

By 1700 the English had taken over many of the Dutch colonies and a North American littoral was formed. The population and economy expanded and in 1763 Canada was conquered from the French.

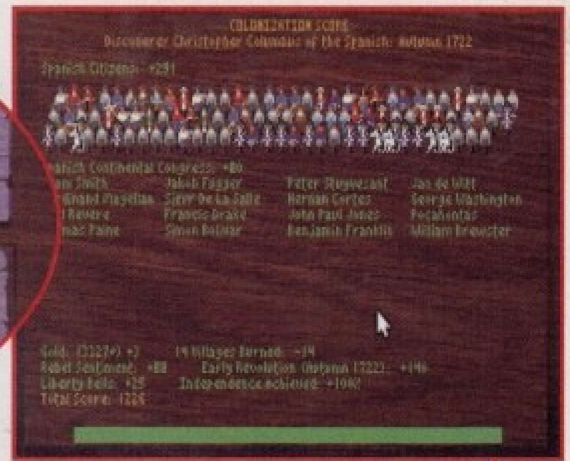
In Lexington, Massachusetts, 1775, a battle broke out between the colonists and the British Army. Just under a year later independence was declared and war began. A treaty was eventually signed in Paris in 1783 and the British recognised the United States of America.



The game promises to be colourful and visually appealing



Colonization will cater for all levels of expertise, from novice to the expert

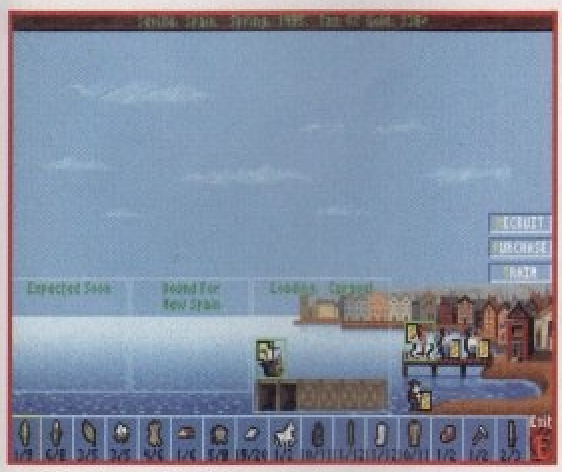


Find out the score for all your efforts

...ization



You can allocate different skills to your colonists and combine them with other resources to give special powers



Trade between cities is important and vary from each port

prepared for any battles. Colonists armed with muskets, or those mounted on horseback, have more strength and you can build up your army with Veteran soldiers, for example, who have been trained in a college or have won a battle.

The natives should also be treated with caution. Although generally a peaceful lot, there will be great suspicions between the two cultures which can have violent results. Good relations can also be beneficial as skills can be learnt from them such as fur trapping or wood lore.

TEACHING TIME

Your basic colony will be fairly unskilled at first as most have come as indentured servants or petty criminals. However, you can construct schools to enable valuable skills to be taught. Most of your people will work the areas around the settlement, harvesting crops such as corn or cotton, or mining the ore and silver.

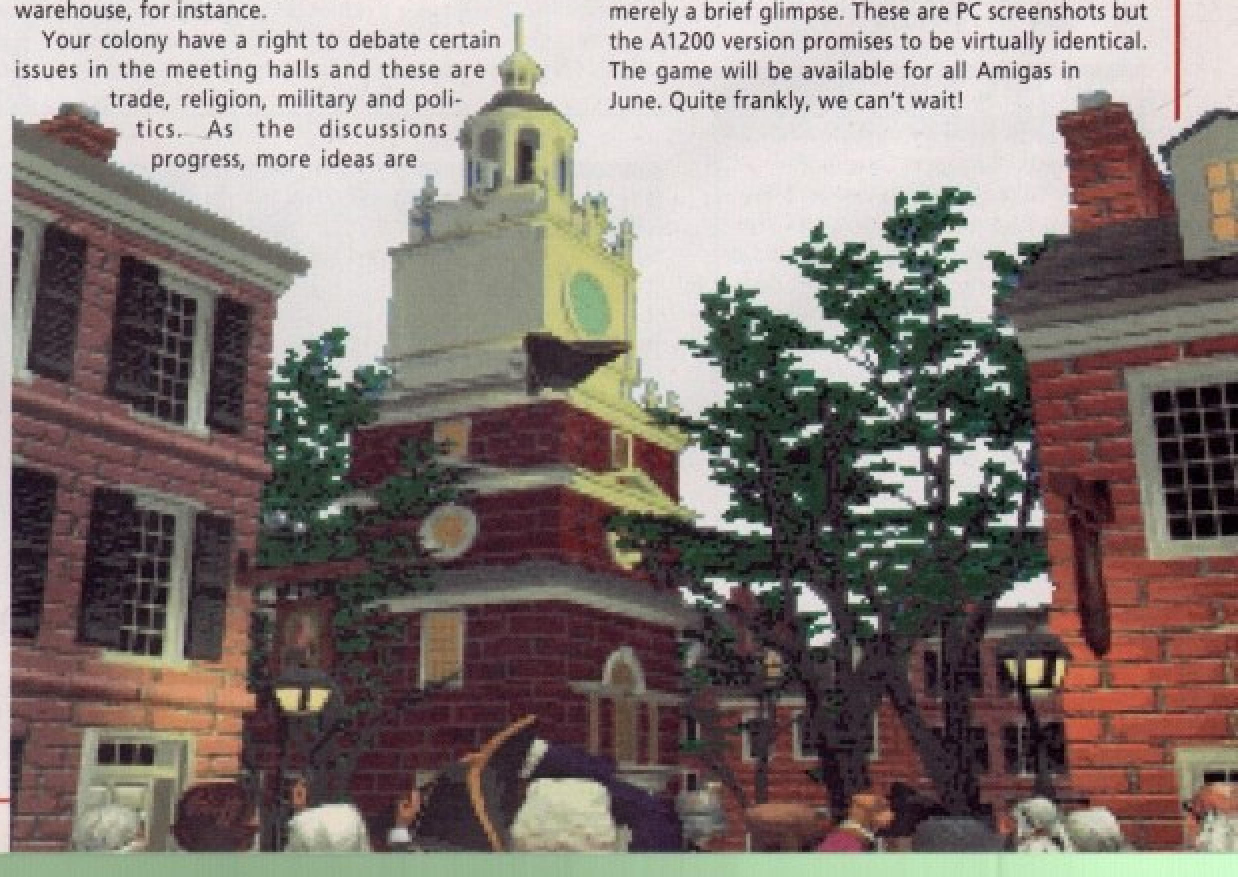
The colony starts as a small cottage industry, and some processed goods can be made such as cloth or rum. As this expands, and your colony has enough resources to keep going, you can then think about trade. Trade plays an important part and suitable routes will have to be established. The best kind to establish is one where you have commodities in one colony that need to be continually shipped to another over a long period. You have to create a stable economy too and keep an eye on market prices. If you flood the market with one particular product then the price for it will fall.

Once you are travelling across the waters to trade you'll have to form a naval presence to guard against privateers. Ships can be bought from the crown or, once you have a shipyard with plenty of lumber, you can build them yourself.

All your colony's information is compiled on a display which shows everything from Sons of Liberty – the number of people who favour rebellion against your mother country – to crosses which represent the amount of religious freedom and satisfaction there is. This screen also shows the existing buildings and storage facilities in your warehouse, for instance.

Your colony have a right to debate certain issues in the meeting halls and these are trade, religion, military and politics. As the discussions progress, more ideas are formed that will advance the course of history. The 'Founding Fathers' can join our Continental Congress and each will effect your colony. Hernan Cortes, for example, was the Spanish conqueror of Mexico and a master of conquest and plunder. When he joins, conquered native settlements always yield more treasure. If the explorer, Sieur de La Salle, joins then all new colonies automatically get a stockade.

And that's basically the game. As you can see it's huge with absolutely loads to it – in fact, this was merely a brief glimpse. These are PC screenshots but the A1200 version promises to be virtually identical. The game will be available for all Amigas in June. Quite frankly, we can't wait!





INTRODUCTION

The Amiga never seems to have a shortage of football management games around and developers are constantly bombarding the gamesplayer with updates and any number of variations on the theme. Audiogenic have caught on to the trend but given it a new twist. Gone are the lengthy stats and millions of charts and in its place is a more fun angle that works best with a more human approach.

It also provides an arcade section so you actually get to control a match when your team get on Match of the Day. The A1200 and CD32 version have an in-built football game based on Wembley International Soccer whereas A500/A600 owners can send off for a copy of Emlyn Hughes International Soccer free of charge.

You play manager of lowly fourth division club, Folkford United in an imaginary Super League. Your ambition is high: To compete against the 31 other managers of the clubs in all the four divisions and to take your team to the top of Division One three times.

Super League Manager

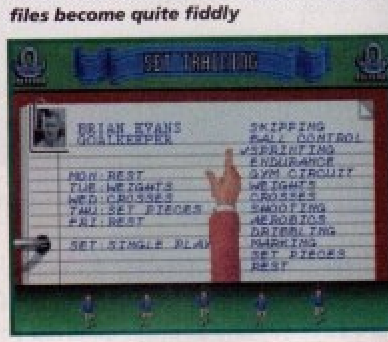
Is Audiogenic's new football management sim in a league of its own or ready for relegation?

Tina Hackett watches this no score draw

- Publisher: Audiogenic
- Developer: Audiogenic
- Disks: 2
- Price: £29.99
- Genre: Management /Sports
- Hard Disk Install: No
- Control: Mouse/joystick
- Supports: A500/600/1200
- Recommended: 68000 upwards



The manager's desk. All the decisions are made from here but the many different files become quite fiddly



All the players need appropriate training and you need to make sure each player is reaching their full potential

SOUND

Aagh, what is this dreadful insult to my ears? Okay, I applaud Audiogenic for actually bringing some sound into a management game (most of which rarely have any), but this? Has Amiga technology not moved on enough for something half-decent? Listening to this you'd think not.

The phone rings in a horrible shrill tone of a '70's trimphone. You pick it up and talk to your secretary who's been possessed by a Dalek (and incidentally every other character you talk to speaks with this dreadful computerised wah, wah sound – sorry, it's the only way to describe it!). There's also a rather grim 'Hold' tune when you wait to be put through to someone. Thankfully you can turn some of these off which makes things slightly more bearable.

30%

GRAPHICS

All the actions in Super League Manager are carried out via your manager's desk. This is quite a novel idea and adds realism. However, it is far from practical. On the desk are a number of files and each, as you can guess, has stacks of information inside. This causes a problem as they all look rather similar and you end up ploughing through them all just to find the particular part you want.

Other than that though, the charts themselves are nicely set out and the newspaper idea works well. There are plenty of small touches to add authenticity such as Post-It notes or torn out memos, but the whole package looks rather dated – especially the matches you have to watch with the cheesy crowd animations.

47%

OPINION

46%

This is neither a particularly good game, nor particularly bad. At first I liked the concept of a management game that wasn't heavy on the stats side, so the emphasis was on fun rather than serious realism, but this verged on the rather silly and irrelevant.

Yes, I can see that having a few novel touches like having to water your plant or answer fans' letters can add an authentic touch, but this just gets out of hand – you keep getting plagued by begging letters and if you forget to drink your cup of tea then the tea lady gets the hump and will start moaning to the players about you. Yeah, right.

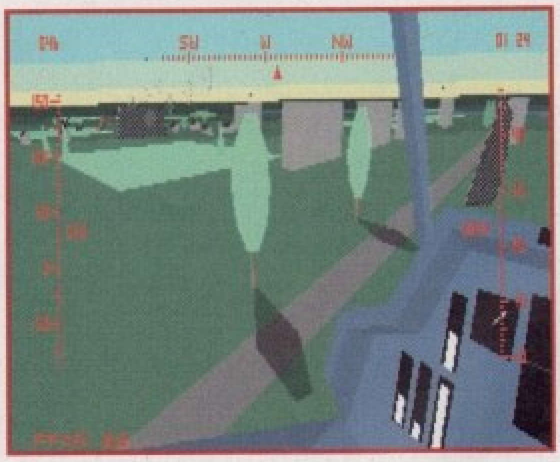
And okay, call be me power mad but I really don't want patronising phone calls from the chairman telling me what to do!

Also, the way of accessing information, although unusual, is laborious, especially when the phone rings and you have to keep clicking on different pages before you can get back to the desktop.

The actual management side is quite basic but I think this will work well for newcomers to the genre, or for those that want a game you can quickly dip into, and the option to play the occasional match is a welcome addition. Training your players is fun, and bidding for new players is good.

The more 'human' idea works well too, such as considering the players' different temperaments or skills which need nurturing, and the idea of getting reports from the Gazette is good. However, I really think that serious management fans are going to find this just too primitive and there will not be enough actual matches for arcade enthusiasts.

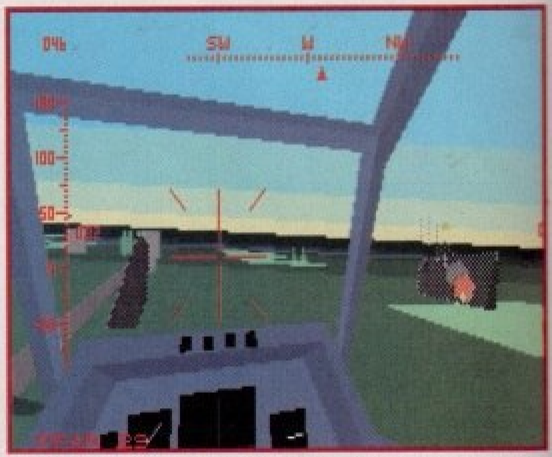

Turbo TRAX
ARCANE
ENTERTAINMENT LTD.
AMIGA ACTION 92%
"The best Amiga Racer ever"
CU AMIGA
"Turbo Trax - the most playable racing game yet!"
Marketed by Kompart UK
01438 840004
VISA
Also available at all good software stockists
Virgin, Futurezone, Beatties, Game, HMV, WH Smiths,Software Plus, Toys 'R' Us
Available for all formats



A glance out of the cockpit window and you can admire the virtual world that lies outside. Now to destroy it all with a few well-aimed missiles

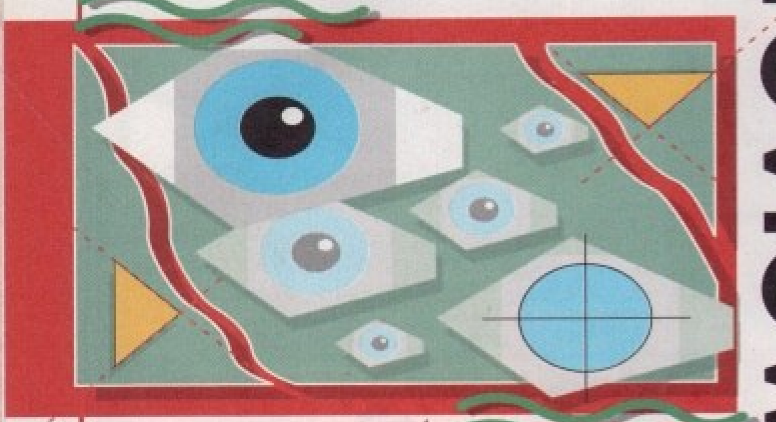


Coala features some incredible viewpoints, even shots from inside the chopper have been well designed by the game's creators



Why waste time and fuel flying all over the place looking for the enemy when you can get all the shoot-'em-up action you want by blowing up buildings

system preview



Mature enough not to make any corny gags about fluffy bears who scoff Eucalyptus leaves all day, Jonathan Maddock takes a first look at Empire's forthcoming 3D helicopter action-sim, Coala

Flight simulators have always been stuck between two genres. The first tends to be highly technical and historically accurate and really only appeals to the avid plane-spotter. The second is aimed at arcade and shoot-'em-up freaks and the only way you can tell it's a flight simulator is that fact that it's got a plane in it.

There have been a few occasions where the two have merged to good effect. Gunship 2000, Dawn Patrol, Thunderhawk and TFX are just a handful of examples where this feat has been successfully achieved.

You may have noticed that helicopter flight simulations were fairly prominent in the list and that's because that particular type of sim is ideally suited to a cross-over of genres.

Helicopters are very fast and manoeuvrable machines, plus they pack so much hi-tech weaponry that most flight sims featuring choppers are relatively close to becoming full blown shoot-'em-ups anyway.

Empire are a company with a history in the sims market, whether it's flight such as Dawn Patrol or tank warfare as in Pacific Islands. The London-based software house has now made the leap into the world of helicopter simulation and I warn you now that this is going to be very special.

Coala is a fully configurable 3D battlefield helicopter action simulator. You play the part of a lone maverick pilot who can pick and choose which side to join, ignore or attack. There are no specific flight orders and there are certainly no commanding officers to dictate what you should be doing. If you want to fly around and blow up innocent victims caught up in a cruel and harsh war then that is entirely up to you!

Coala features a true artificial, intelligent living world, so no matter what you decide to do, the rest of the war will carry on around you. Jets, planes, choppers, cars and tanks all go about following their own orders and each vehicle within your vicinity can be independently observed.

This is all done via the mouse and you can rotate, zoom out and in on all the vehicles. If you take your flight simulations seriously then you can even fly alongside the various enemies to study their tactics.

Your attack helicopter hasn't got any markings on it and just as you have the right to shoot anyone down, the same rules apply to your enemies and thus they too have the right to blast you out of the sky. You don't get the chance to take a specific side, so it's going to be everyone in the war against you. To cope with this little dilemma you're kindly provided with a whole range of deadly weapons including fire and forget (FFAR) missiles, laser-guided hellfire missiles and air-to-air sidewinder missiles, not forgetting your trusty standard cannon.

There are several scenarios which you can play out including Peace and Cold War themes, UN Cease-fires, tank, ground and helicopter battles, plus for mad pilots and total psychopaths everywhere there is an all-out total war option. If none of these delightful scenarios impress you, then you can use Coala's simple menu system and create one of your own.

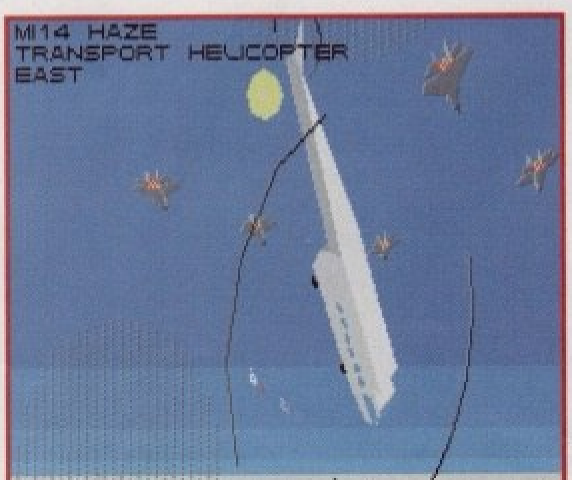
JAW DROPPING

You've now got what should be an early picture of Coala in your mind, but you, obviously, haven't seen it in action yet and this changes everything I've just said. It doesn't really matter what particular features are in the game, you simply won't be interested in them, because Coala is looking so damn fine that I guarantee your jaw will drop open in sheer bewilderment

When I saw a video of the game at the ECTS I thought Empire were showing off their latest hi-tech PC flight simulator, but I was more than happy to find out that I was wrong.

Empire had used all the best shots and slices of action for the video and all the fancy external and internal angles were on full display, and I have to say I was more than impressed with it. To be perfectly honest it was more like watching a sequence taken from an action movie rather than a computer game.

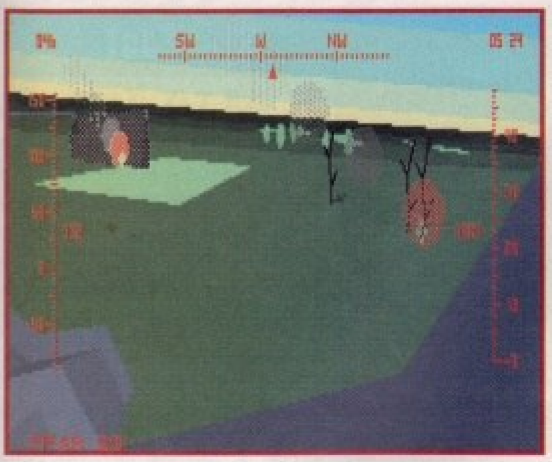
The reason Coala looks and performs so well is all down to the virtual engine that runs the whole game. Entitled 'Navigator', this new concept in Amiga game technology is certainly impressive and some of the



Did I do that? A transport chopper feels the heat of the battle and starts to take a nose-dive towards the ground. It's only a shame we can't have a slow-motion replay!



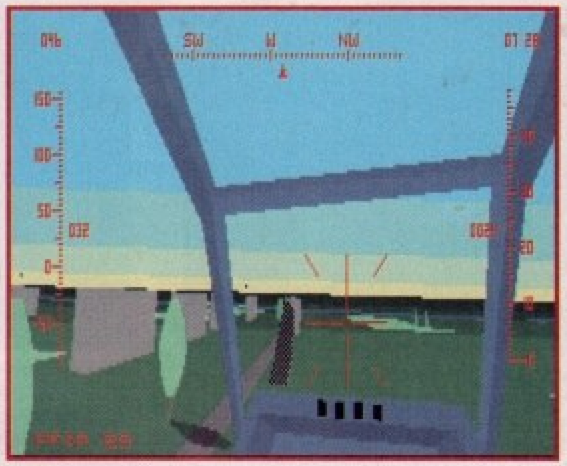
Most of the jets, planes and tanks look really good on screen, but just to annoy you here's a delightful picture of a 3D ambulance. I knew you'd appreciate it



I consider buildings to be fairly good target practice, but it's not nice to shoot missiles at poor unarmed trees. Captain Conservation saves the day yet again!



Look let's just make this clear. I didn't take these screenshots, so if you don't like this gorgeous shot of the pilot's joystick then I'm sorry



A lovely day outside and us maverick hot-shot pilots have stayed inside this warm, sweaty helicopter shooting and killing anyone we want. Oh well...

Coala

examples I've seen of what it can do are mind-blowing.

A 3D racing game that runs far faster than Microprose's Formula One Grand Prix, a room full of objects which can be observed from any angle and manipulated, flight simulators that move like you've never seen them move before – the list could almost become endless.

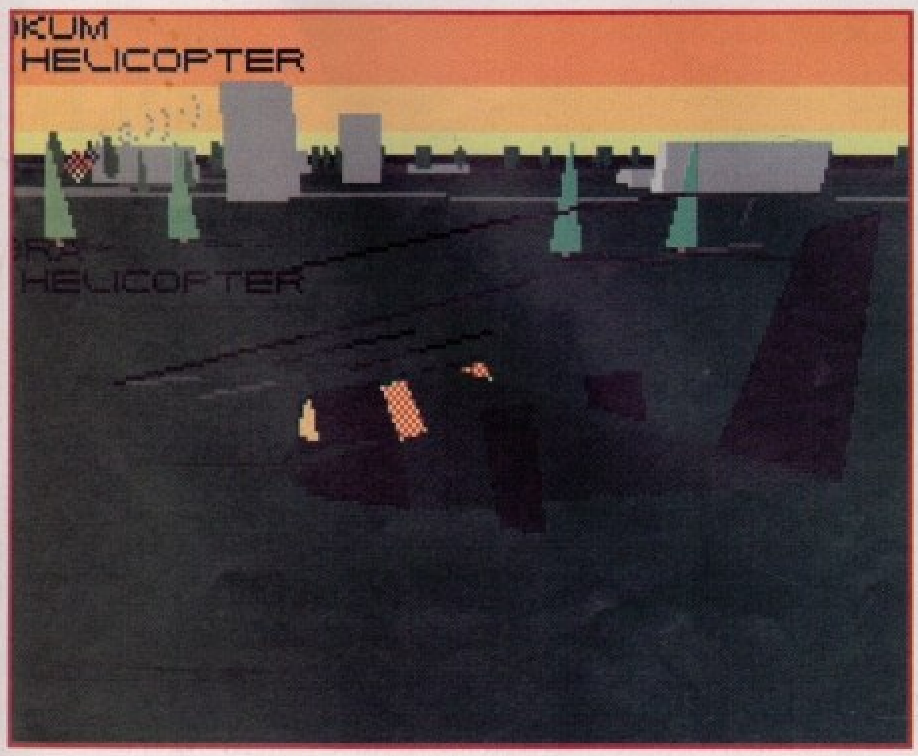
Coala may be the first fruits from this technology to fully bloom, but believe me when I say that a full garden of delights could be arriving your way in the not too distant future.

Normally, flight simulators on the Amiga have to sacrifice speed for higher quality graphics and vice versa, but Empire's forthcoming simulator runs at breakneck speed and also manages to score itself a few points in the beauty department.

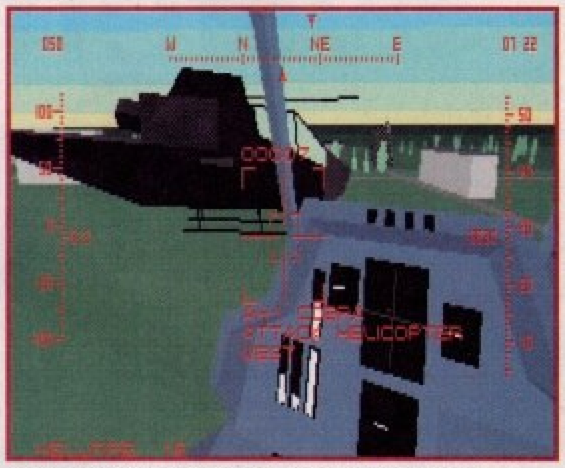
Some of the current background graphics may not look that astounding at the moment, but the actual 3D models for the vehicles are exquisite. Coala boasts 10 levels of object detail, adjustable shading, four different types of day (dawn, noon, sunset and night) and four different environments featuring Desert, Icy Wastes, Forest and Jungle landscapes.

A look at the various screenshots dotted around the page doesn't really give you a true idea of what Coala is all about and just how good it's going to be. If you're the type of gamer who loved Gunship 2000 to bits and lusted over Thunderhawk night and day, then you'll be flying up your street to the shops when Empire's action-simulator hits the shelves.

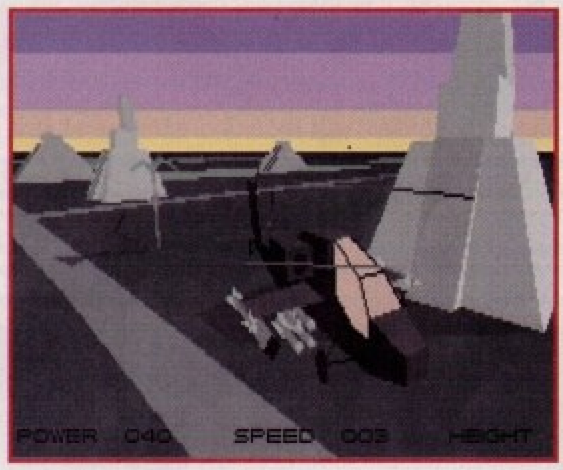
It certainly doesn't feature any cute and fluffy antipodean bears, but if Coala manages to live up to expectations then the majority of gamers aren't going to give a XXXX for anything else.



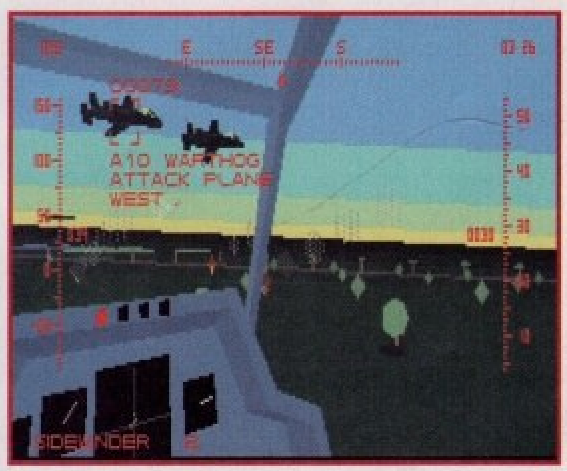
You can keep an eye on any of the vehicles within your area and watch them as they go about their business. Lots of lovely external views are at hand via the mouse



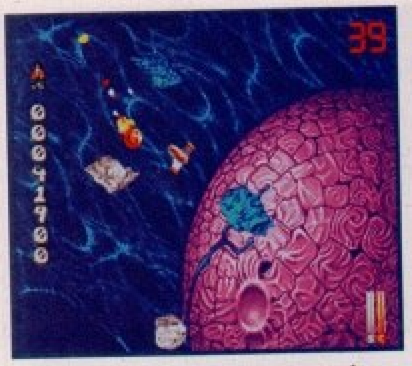
A nice bit of formation flying from our superb and highly-skilled pilot, but sequences like this are not done any justice in static screenshots



One of the many external views of the helicopter and notice, if you will, the fact that the sun is now setting, giving the background a lovely tinge of purple



A couple of Warthog planes fly ungraciously across my flight path and just for that I'm going to blow them out of the sky. Get those sidewinders ready!

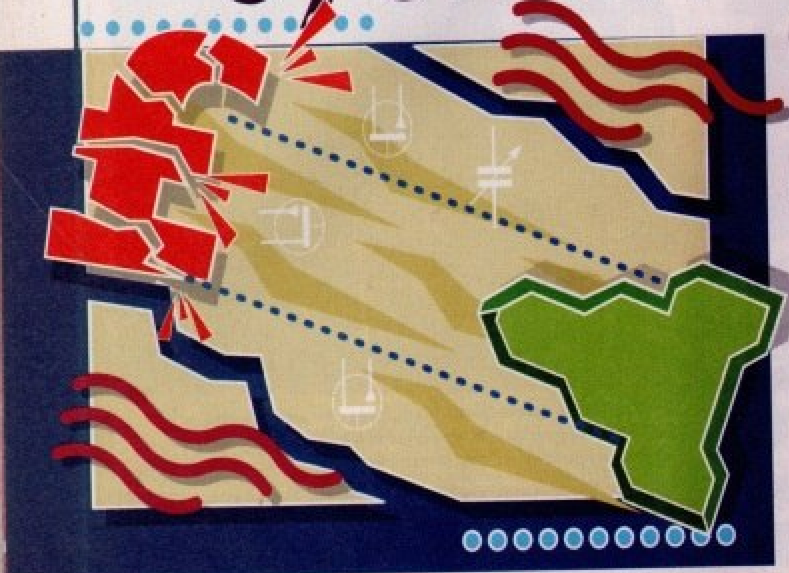


Stardust drags Asteroids kicking and screaming into the '90s with its superior graphics and sound while still retaining the playability of the original game



The warp tunnel sequences haven't lost any of their impact and are still just as impressive today as they were back in August 1993!

system essentials



This month's collection of must-buys features a couple of classics. One appears for the first-time on the CD32 while the other has got a new bargain price stamped upon it. Jonathan Maddock is in the reviewer's chair

Stardust

AMIGA PLATINUM AWARD

This '90s update of one of the world's most popular games has rapidly become a firm favourite with thousands of trigger-happy Amiga owners. Bloodhouse, a bunch of talented software developers from Finland, were responsible for the construction of this fast and frenetic shoot-'em-up.

Keeping close to the original theme of Asteroids, Stardust contains a fair amount of meteor blasting and your challenge, while strapped into your intergalactic space fighter, is to wipe them all out.

You have six different weapons to play around with, all of which can be powered-up. There are shields and tokens which when picked up give you extra weaponry, smart bombs and extra doses of energy.

As well as five different worlds, there are also four 3D warp tunnel sections, but no amount of words could ever do them justice as to how good they actually are.

Stardust features some drop-dead gorgeous graphics, a thumping techno soundtrack that compliments the shoot-'em-up action perfectly, and it contains more playability than you can cope with.

I'd class Stardust as a very hard shoot-'em-up, definitely not recommended for lightweights or the faint-hearted, and it's not a game you'll complete within the first couple of days of playing it. I suspect it'll take you a while before you get the hang of things, but thanks to Stardust being so addictive you'll always find yourself coming back for one more go.

Bloodhouse's debut is still as impressive now as it was the first time I clapped eyes on it, and for just under ten quid you'd be a complete mug to miss out on it this time around. A classic of epic proportions.

90%

- Publisher: Daze
- Developer: Bloodhouse
- Disks: 3
- Price: £9.99
- Genre: Shoot-'em-up
- Hard Disk Install: No
- Control System: Joystick
- Supports: A500/600, A1200
- Recommended: 68000

ATR CD32

- Publisher: Team 17
- Developer: Team 17
- Disks: 1
- Price: £25.99
- Genre: Racer
- Hard Disk Install: N/A
- Control System: Joystick/Joypad
- Supports: CD32
- Recommended: N/A

AMIGA GOLD AWARD

Ever since the exciting old days of Hang-On, Pole Position and Super Sprint, gamers have been fascinated and entertained by racing games. Why this should be I don't really know, but even though I don't profess to being a psychologist, it could all be down to a little lunacy that lurks within every human being.

The ability to drive a vehicle at break-neck speed down a deserted road is a temptation most people can't resist, so when gamers get the chance to do this within a safe simulated racing environment against some like-minded opposition, fun and frolics are just around the corner.

The racing game has rapidly progressed over the last few years. Now you can play technically superb racers like MicroProse's Formula One Grand Prix and Domark's F1, or you can simply have a good laugh with games such as Skidmarks and Roadkill. The choice, as they say, is yours, but almost everyone's taste in race games seems to have been catered for, so how do you bring out a new race game that'll delight the gaming masses.



ATR features six different terrain types. The Canyon is a tough one to complete with its twisting corners and tunnels

Easy. Call yourselves Team 17, hire the guys who, between them, were responsible for creating Qwak and Nitro, and get them to construct a piece of racing software that'll be highly prominent in the playability and addiction stakes, but must still retain a good sense of style and class in the graphic and sound departments.

This updated CD version doesn't seem to be any different than the floppy disk version which is a real shame. A helping hand with the rather poor soundtrack and a few extra sound effects would've been nice. I've marked ATR down a few points thanks to this non-improvement, but CD32 owners should put Team 17's racer down on their shopping list as it is an essential purchase.

85%

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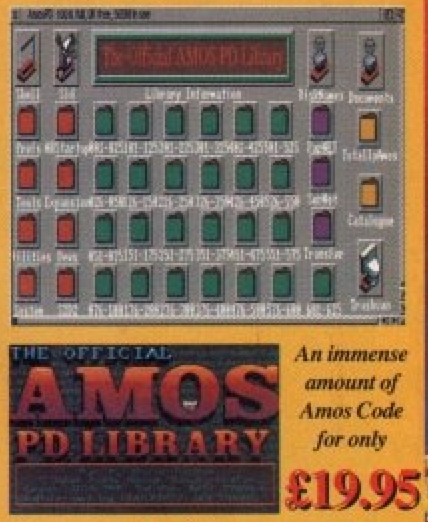
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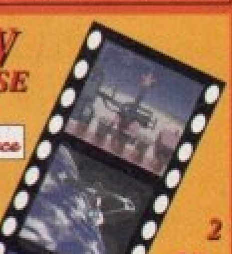
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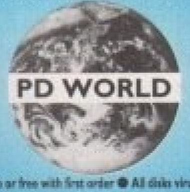
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Amiga Medical Part 5

A pick of the bunch

Frank Nord looks at various programs that have recently come from the net



As stated in the byline I am looking at different programs that have appeared on the Internet. The first one I am going to deal with is ReKeyIt v2.3 (util/wb 43k). This is a great commodity for those people who are running Workbench 2.04 or 2.1, neither of which gives support for the Right Amiga(.) command to clean up windows. ReKeyIt lets you edit the keyboard shortcuts for your Workbench menus so you can change Right Amiga A from 'Select all' (which I never use) to 'Snapshot All' (which I use all the time. This commodity is simply superb, but does require either MUI or the BGUI library, so make sure you have one of these before you get it.

Next up is MultiCX (util/cdity 18k) which is one of those multiple commodity replacements. It can blank the screen and mouse pointer, click windows to the front and back, let you use the * wildcard, accelerate your mouse and give it RMB shift functions, and much more. The only thing I don't like about it is there is no nice GUI preferences program for it, but then again, it wouldn't be less than 8k if that was the case.

The latest version of VirusChecker is now 6.52 and can now examine files packed with the XFDmaster.library. A worthwhile addition to anyone's WBStartup.

SNAPSHOTS

ForceIcon (util/wb 114k) is one of those tools that ought to come with every CD-ROM or ParNET set-up sold. It lets you snapshot the position of icons for read-only devices, change them to your taste and also snapshot their windows, etc. It, like many other tools these days, also needs MUI to work.

I've said it before, and I'll say it again – KingCon (util/shell 128k) is what a Shell should be like. The latest version (1.3) offers such fancies as filename completion, jumping to public screens, window history (scrollbars), iconification and loads more.

Last up in my list of funky things to get is one for all you MMU owners. Being an owner of Gigamem I was interested to see there was a shareware alternative – VMM v3.0 (util/misc 179k). It also requires MUI along with an MMU-equipped CPU (68020 with 68851, full 68030, 68040) to work, but it really works well, and seems to me to be faster than its commercial rival. But do bear in mind that virtual memory is horrendously slow in any case, and shouldn't be used as an alternative to real RAM.



No more going to the top of the screen to snapshot a window, I'll just give it a keyboard shortcut



With more options than you can shake a stick at, ForceIcon lets you control almost every aspect of the way a read-only device looks on your Workbench

Acronym attack – part three

RAM: Random Access Memory. As in RAM chips, CHIP RAM,

RISC: Reduced Instruction Set Computing. Compare CISC and VLIW.

ROM: Read Only Memory. A chip containing instructions for the computer that cannot be written to. The Amiga's Kickstart chip is an example of a ROM.

RTG: ReTargettable Graphics. Not really a standard yet on the Amiga, but a system whereby the operating system outputs standard graphics instructions to a graphics chip set which interprets them independently.

This opens the way for a variety of graphics cards exploiting these instructions to offer higher resolutions, more speed or more colours. The cards doing this should remain transparent to the operating system and the user. The Picasso II graphics card is the closest thing to an RTG graphics card on the Amiga.

SCSI: Small Computer Systems Interface. A standard for attaching peripherals to a computer,

SMT: Surface Mount Technology. Rather than soldering sockets to PCBs (Printed Circuit Boards), SMT allows companies to solder the chips directly to the PCB. The only problem is that while a socketted chip is easy to remove and replace in case of fault, an SMT one is impossible without the right tools.

SQL: Structured Query Language. A programmable database system used worldwide by very large organisations who require a great deal of data sorted. ASQL is the Amiga version, included on the coverdisk with the February issue of this mag.

SYS: On an Amiga, the floppy disk or hard drive partition that the Amiga has been booted from, usually Workbench.

TCP/IP: Transfer Control Protocol/Internet Protocol. The networking standard the Internet is based upon. It works by putting segments of the information, called packets, you wish to send across the network in an 'envelope' containing the sender's address and destination. The network then uses any route available to get the packets to their final destination.

VLIW: Very Long Instruction Word. An adaption of the principles behind superscalar RISC processors (multiple RISC processors on a single chip), but system software is responsible for sticking several RISC instructions together in a stream which are then executed by the processor. Compare RISC and CISC.

VLSI: Very Large Scale Integration. Normally this refers to processors that have more than 1 million transistors.

WIMP: Windows, Icons, Menus, Pointer. The term coined by scientists at Xerox's Palo Alto Research Centre to refer to a Graphical User Interface (GUI), for instance Workbench or Microsoft Windows.

WWW: Netspeak for WorldWide Web

Amiga 3D Part 3

Keeping it simple

Models with engineering precision aren't always the best for 3D animators. Stevie Kennedy tries to keep his polygons under control



There you are. You've finally finished that model of a classic Robin Reliant, perfect in every detail down to the tyre treads, and it's time to re-enact the car chase scene from Bullit. You slap the mean machine into an all-action scene and bang! The Amiga hangs up. You've run out of memory.

Modelling for fun and modelling for animation are two different activities. In the former, thousands of enthusiasts regularly churn out beautiful models which have been crafted in loving detail – huge affairs with tens of thousands of polygons and image maps splattered all over them.

Modelling for animation is a process of creating as much detail as the camera demands and no more. It is also a process at the end of which someone gets paid, and getting paid usually depends on delivery at a certain time. More polygons means slower rendering, greater demands on your system, and sheer waste.

It's always fun to take a subject and create an exact 3D equivalent, but for animators, models are a means to an end and should be treated as such. Luckily, there are plenty of simple ways to keep the polygon count low without sacrificing too much on detail.

Much of the wastage in a 3D model is caused by modelling tricks which are designed to save time, such as using primitives, extrusion, transformations, and other powerful tools. However, though it's true that liberal use of the automatic shortcuts will save time during modelling, they will often pay back that time with interest when rendering starts.

Extrusion is a good example. Take the pub bar shown in figure 1, a very wasteful model but one which looks fairly good when rendered. It was created from two simple shapes – a cross section of the bar itself and a disc for the bar rail. Both were then extruded along paths to bend them into the correct shapes.

Unfortunately, it's not possible to tell the software you only want extra sections along the length of the extrusion where an angle or a bend occurs, so you end up having to use more polygons than you need just to make sure the detail is good enough where required.

To keep the polygon count lower, extrude the object with three or five sections per bend and only one for straight lengths, then bend it manually. This takes more time, but not as much as you'd think and the result is a bar with hundreds fewer polygons than before. As long as you bend in only one plane at a time, you'll be surprised how accurately you can work without the need for paths, spline curves, and so on (see figure 2).

Last month's column, for example, concentrated on a jeep which was built using digitised images as a real world guide. The finished model made use of only one sizeable primitive – a modified sphere used to fill out the wheel arches – so this relatively detailed model was completed using only about 5000 polygons.

DO IT YOURSELF

The canopy section mounted on the rear of the jeep (figure 3) is an example of how manual modelling can save a lot of polygons over the usual extrusion methods. Each bar is made of a disc with only six sides (they aren't going to feature in any close-ups!) and extruded with only seven sections, then bent to shape using the jeep's body as a guide.

When completed, the canopy uses only 356 polygons yet does the same job as many hundreds more. Less thought in the initial modelling plans would have resulted in maybe an eight or 16-sided disc being extruded along a curve, and this efficient little component would have ended up with 1000 polygons or more.

In many situations, there are models which lend themselves deceptively to the use of primitives when a bit more modelling hassle will save a great deal of avoidable detail. The jerrycan on the back of our jeep is an example of this.

Figure 4 shows the can in question, which sports only 216 polygons yet is one part of the jeep which gives the most impression of detail. It was built from a single polygon in the shape of the can's front elevation, extruded to form four sections, then the front and rear sections were scaled down to give the can its top and side elevation shape.

A bit of Boolean drilling to create the simple 'X' embossing, a handle and a spout, and Bob's yer mother's brother. Hardly the most impressive example in the world, but an object built from scratch to be functional and visually effective at the same time.

Modelling just for fun can be one of the most enjoyable ways to dabble in 3D, because you have your own Airfix factory at your fingertips and imagination is seemingly the only limit. When it comes to rendering and animation, however, memory, disk space, and time (not to mention electricity bills) are more important, and the smart modeller will try to develop his or her skills towards building the most efficient objects for the job in hand.

Mind you, I still think my Robin Reliant needs a bit more detail on the underside of the dashboard. Just for accuracy's sake, y'understand...

Polygon savers

The three golden rules for keeping polygon counts low are just simple common sense:

1. Don't use primitives unless you have to. They are inherently inefficient and usually need a lot of editing before they fit into your model. If you do use them, make them as simple as possible with as few polygons as you can get away with. Imagine users should always beware of the program's eagerness to create default primitives with lots of sections!

2. Create models (or at least their detailed components) from scratch where possible. You'd be surprised how easy it is to build something using points and faces from the ground up, and you have complete control throughout the process.

3. Use automatic tools sensibly. Extrusion, lathing, drilling, and so on are powerful tools, but can quickly multiply your polygon count. In particular, extruding along a path or spline to create bent objects can be very wasteful.

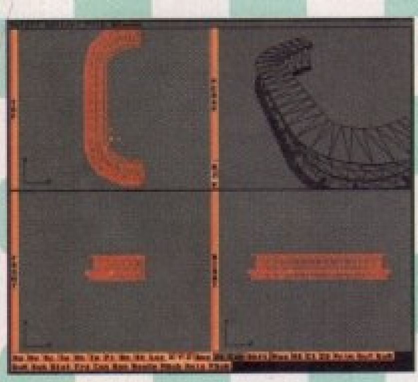


***Figure 1:** This bar might look okay when rendered, but it shows all the signs of wasteful extrusion. See how many pointless polygons it has in its straight middle section?*

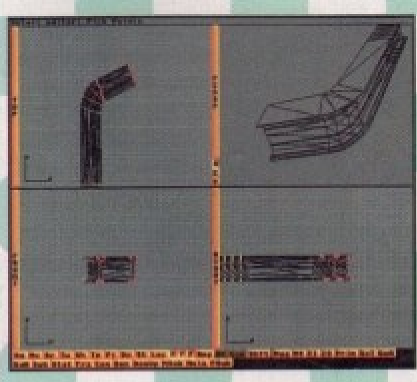


***Figure 2:** A better approach to making the bar. We now have only 10 extruded sections, leaving plenty for the bendy ends while the middle section has far fewer polygons*

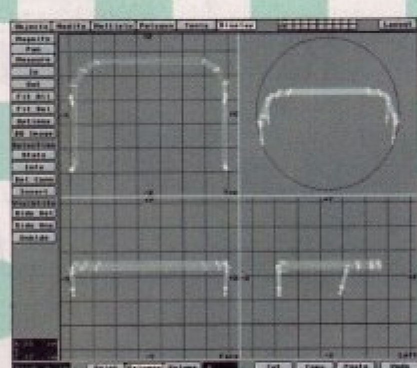


***Figure 3:** No more and no less detailed than it has to be, the jeep's canopy is one of the parts of the model which add detail, and it does so with as few polygons as possible*

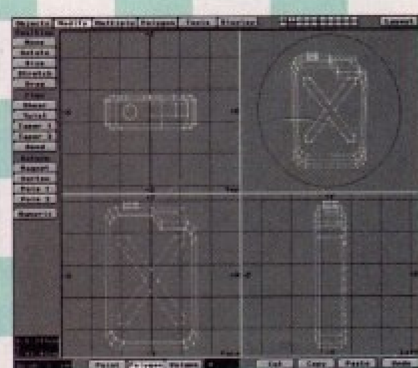


***Figure 4:** A jerrycan built from scratch in Lightwave saves so many polygons that we can afford to be wasteful with the spout – a primitive with more sides than it needs*

Interrupting a statement

More ARexx wisdom from our resident guru Paul Overaa

One of the first things you discover as you start writing and using ARexx scripts is that ARexx will automatically terminate the execution of a script if it encounters a statement that produces an error. The chances are pretty high that you soon learn that an ARexx script can be stopped by typing Control C. What you may not know is that both of these situations are actually part of a far more general 'program interrupt' scheme supported by ARexx.

This internal interrupt system can be used to trap a number of common error or user-generated exception conditions and, by enabling the appropriate interrupt signals, it is possible for programs to take remedial action where the result might otherwise mean premature termination of the program or perhaps even a fully fledged guru-style system crash!

ARexx's interrupt facilities are then used to enable programs to identify, and react to, particular environment situations. While they are useful for providing things like function cancellation options, on-line help displays and so on, perhaps their most important use is in providing what are known as safe asynchronous 'abnormal exit' program paths. (Asynchronous interrupt events are ones which can cause an interrupt signal to occur at any time – user typed Control C characters are of course one common class of detectable asynchronous event).

Supposing your script makes use of certain external library functions that open windows or result in memory or other system resources being allocated. Under normal circumstances your script would, or should, deallocate or otherwise hand back those resources when it terminated. If your program did not perform those deallocation tasks because of early termination due to an ARexx detected error, for example, all manner of subtle (or perhaps not so subtle) snags could arise. Windows might remain open, memory could be effectively lost and so on.

ARexx's interrupt signalling provides a way of avoiding such catastrophes and is initiated using a SIGNAL instruction which takes this form:

```
SIGNAL ON | OFF condition
```

By using such statements to control the state of various interrupt flags it is possible for selected interrupt sources to be turned on or off. Details of the various detectable sources are shown in Table 1 and the bottom line, as far as the ARexx coder is concerned, is that when an identifiable condition occurs the interrupt is disabled and control gets passed to the appropriate interrupt handler. Notice that the NOVALUE condition allows a program to detect the use of non-initialised ARexx variables. This, needless to say, can provide a useful debugging tool in large scripts.

Incidentally, multiple conditions can be trapped and sent to the same routine by specifying adjacent labels. The following double-label code fragment shows how both error and syntax interrupts might be passed to the same handler, thus enabling the same piece of program-specific 'close down' code to be executed before a program terminated under error or syntax interrupt conditions:

```
Error:
Syntax:
```

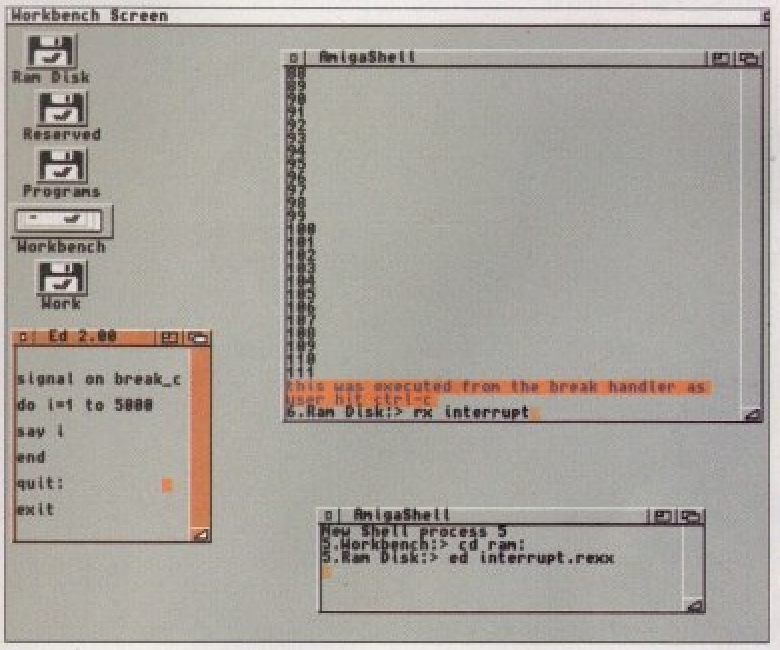
This is where you would place your own program-specific closedown code:

```
exit
```

It's worth mentioning at this point that two other things happen when interrupts occur. Firstly, ARexx dismantles any active loop and control constructs before passing control to the specified interrupt handler. This means, for instance, that while it is safe to jump out of a loop it is impossible to jump back into it again.

However, only the control structures within the immediate environment are dismantled so it is possible, and more to the point perfectly safe, to use SIGNAL instructions inside function calls without it affecting the caller's environment. Secondly, two special variables get affected – the variable SIGL becomes set to the current line number before the transfer of control takes place (so programs can determine the source line that was being executed when the interrupt occurred) and RC gets set to the appropriate return code if an error or syntax interrupt has occurred.

Another useful feature of the ARexx interrupt arrangements is that the signal name will also be the label for the interrupt handler code used within your script. In the example shown in listing 1, I've added some custom Control C break handling code by using a 'signal on break_c' statement. As you'll see, this is also the label for my associated break handler code and, if you run the program, you'll find that hitting Control C while the loop is executing will result in the program giving the message outlined in the break handler code before terminating.



ARexx's interrupt facilities, relative to those of other languages, are surprisingly easy to use



interrupt.rexx – a simple break trap example

```
signal on break_c /* activate branch to program's own control-c handling routine */
do i=1 to 5000
say i
end
quit:
exit /* logical end of program */
break_c:
say 'this text was printed from the break handler as the user hit control-c'
signal quit
```

Listing 1: A simple break handling example

BREAK_C	traps an AmigaDOS control-C.
BREAK_D	traps an AmigaDOS control-D.
BREAK_E	traps an AmigaDOS control-E.
BREAK_F	traps an AmigaDOS control-F.
ERROR	traps errors indicated by non-zero command return values.
FAILURE	traps command return codes greater than current FAILAT level.
HALT	traps external halt requests.
IOERR	traps I/O errors.
NOVALUE	traps the use of uninitialised variables.
SYNTAX	traps most syntax and execution errors.

Table 1: Possible ARexx interrupt sources

It's good to talk, but is it cheap?



Comms nitwit Phil South takes a call from BT

In response to the article I wrote in issue 83 about the UK's telephone systems, I got a letter from BT, which I must say shocked me a little bit as I wasn't aware that BT were regular readers of our esteemed magazine. But still, I'm printing the letter. This doesn't mean I necessarily agree with everything they say, but I think it's only fair to let them have a right to reply. Here we go, over to you Ted Graham, BT's Chief of Press and Broadcasting:

"There's no such thing as a free local call. Overseas companies that do not charge directly for local calls have to recoup costs in other ways, for example from the rental charge, from long distance call charges or by using profits made from those who make a large number of calls to subsidise low users. BT thinks it is fairer to charge customers according to the use they make of the telephone network.

"The normal pattern in North America is that customers who do not want to pay for their local calls pay a very high rental. The definition of a local call is also very much more restricted than it is in the UK. This means that some local calls in the UK would be charged as national calls in the US.

"Britain's local call areas are among the biggest in the world. For instance, Nottingham's local area is five times the size of New York's. London's is six times larger.

"BT has one of the most modern telephone networks in the world. It has invested more than £20 billion in network modernisation since it was privatised in 1984, and now more than 98 percent of customers are on modernised exchanges.

"BT introduced a national ISDN service for business customers in 1988 and for small business and residential customers in 1991.

"The UK is by far the most competitive market in the world with more than 150 companies licensed to provide services, and BT faces competition in all sectors. Overseas companies, especially from the US, are lining up to get into the UK. Mercury has been free to compete with BT in all sectors of the UK telecoms market since 1984. They have chosen not to compete in direct service to domestic customers, presumably because they didn't feel this would be commercially viable. They now, like BT, face competition in all areas of their business.

"Customers are certainly not paying through the nose for calls. Since privatisation, the average residential bill has come down by 29 per cent in real terms, after taking inflation into account. For business customers it has dropped by about 50 percent. It is also a fallacy to say that Mercury are always cheaper than BT. A recent BT survey proved that when our best price deals were compared with Mercury's best, BT came out cheaper. Its findings were endorsed by Coopers and Lybrand, international management consultants."



Ted Graham: BT Chief of Press and Broadcasting

Are we being served?

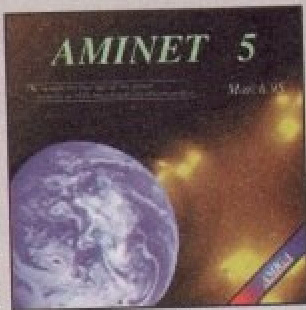
Well, thank you for that, and I hope that BT's reputation is now in tact. I'm sure that hundreds upon hundreds of Amiga Computing readers took umbrage to my column, and immediately sold all their BT shares, and for that I'm deeply sorry. Actually I'm not, because it's unlikely that any of this sabre rattling talk, either Mercury's or BT's, actually has any effect on the average comms user. You can lie just as effectively, if not more so, with good looking statistics than you can with stuff you just made up. Both Mercury and BT can 'prove' they offer a better service, just as Bold Automatic can 'prove' it's better at shifting egg stains at under 40 degrees.

But all that aside, an ISDN service which people can afford would be a good start, and win BT more support than any amount of trumpet blowing about how good it is compared to the rest of the world. It's the UK I'm concerned about, not how we compare with Japan. You can say that ISDN is only the same price as two lines, and what you get is two lines. But, who can afford two lines? Most people can barely afford the one they have.

Comms users, as the most avid and heavy users of telecoms services, ought to be targeted by BT and Mercury, and make it attractive for them to use the service more. This is going to become a growth area in the next few years, and if someone gets the comms user on his side, rather than treating him or her like a moaning minnie for complaining about the size of his phone bill, then whoever it is will get the bulk of the comms business in the UK.

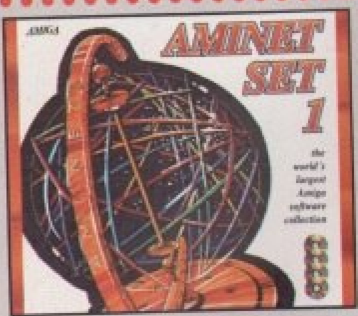
If that person is one of these US firms who are panting at our door, then so be it. I will go to whoever offers me the best deal. Not in 'real terms', but in the small matter of a reduced monthly bill compared to the ones I have now, not 14 years ago. I agree that BT has cleaned up its act a lot recently, and wiping out the top layer of the billing structure was a master stroke. All we need to do now is wipe out the middle one and then we would be talking turkey.

There, that's my two penn'o'th. And for what it's worth, I use Mercury for my long distance calls, and will do until something better comes along.



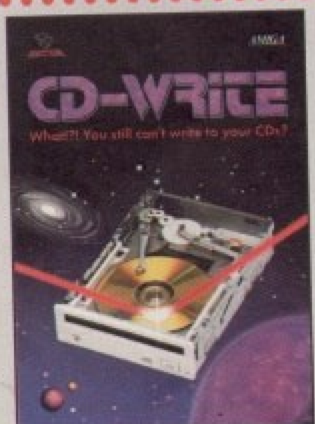
Aminet 5

Aminet CD 5, dated March 1995, consists of approximately 1,1 gigabytes of software in 3600 archives. Since the release of Aminet CD 4 more than 448 MB new software has appeared, since the release of the Aminet Set 1 214 MB new software has appeared. The current edition has a special focus on games, more than 1000 games from Aminet were included. User friendly access software make the Aminet CD 5 a pleasure to use. £14.95



Aminet Set 1

Aminet is the world´s largest collection of freely distributable Amiga software. Up to 10.000 users access the vast archives every day and countless programmers publish directly via Aminet. Until recently access to Aminet was restricted to international network users. With Aminet Set 1, consisting of 4 CDs, the complete archive is published the first time. This CD-ROM-collection, which is dated January 1995, offers an almost inexhaustible reservoir of top-value Shareware. A wide variety of programs is included: Applications, Games, Demos, Pictures, Mods, Animations, Developer-Material, ... It contains approximately 4 gigabytes of software in 12.500 archives and you will enjoy the comfortable user-interface. £29.95



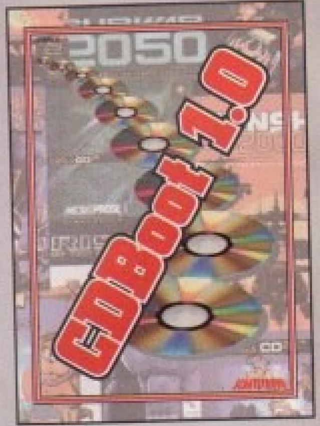
CD-Write

What!?! You still can't write to your CDs? CD-ROMs have long been an essential part of Amiga computing. Many users already own a CD-ROM drive, and the number of software packages available on CD is increasing steadily. Until now, though, it was not possible to write to CDs. We have solved this problem with our new revolutionary product: Ralph Babel and Stefan Ossowski's Schatztruhe are proud to present what can be considered a marvel of technology: CD-Write enables you to virtually write to CDs with an ordinary CD-ROM drive. From now on, you will be able to write, delete, and modify data on your CDs. This product will take you into a new era, and you will be able to utilize CD-ROM technology to its fullest. £44.95



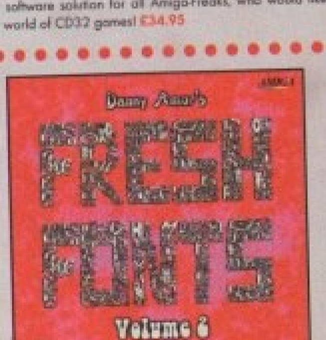
FreshFish 8

The FreshFish CD-ROM-series, produced directly by Fred Fish, provides Amiga users with hundreds of megabytes of the latest freely redistributable software. Published approximately every two months, each volume is a two CD set containing new submissions since the latest volume, as well as an ever growing selection of tools, libraries, documentation and other useful material that is updated with every release. £29.95



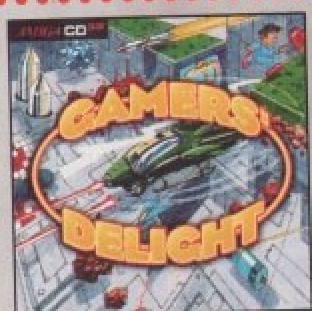
CDBoot 1.0

CDBoot is a fantastic new product that enables you to use almost any CD32 games on an A1200 or A4000 (with AT- or SCSI-CD-ROM drive and any filesystem). You can create a configuration file for each CD, containing information on the Joypad emulation. You can also save the highscore of each CD32 game. The usage and installation of CDBoot is very easy, also for beginners, due to the excellent English manual. Since the compatibility is very high, you can use 98% of CD32 games currently available. CDBoot is an excellent software solution for all Amiga-Freaks, who would like to enter the world of CD32 games! £34.95



FreshFonts II

The FreshFonts II CD-ROM contains 632 megabytes of fonts for almost any computer system. Most of the fonts are freely distributable, except for the Thienen fonts, which are exclusive on this CD. Each of these fonts is included in four different formats: DMF, Agfa IntelliFont, Adobe and TrueType. There are 231 font families on this CD (each containing of up to 8 different styles). They are classified in seven categories: Deco (63 families), Non-Latin (33 families), Pictures (16 families), Sans Serif (29 families), Script (36 families), Serif (36 families), Thienen (19 families). £19.95



Gamers' Delight

This CD contains 40 games for the Commodore Amiga from differing categories. Action, Jump & Run, Card Games, Puzzles, Strategy Games - a whole range of computer entertainment awaits! Gamers' Delight will hold you captivated for hours and guarantees long-lasting pleasure. All games are commercial versions - no public domain & no demos! This CD can be run on any Amiga with CD-ROM drive, CDTV or Amiga CD32 Console with 1 MB free memory and Joystick/Joypad. £29.95



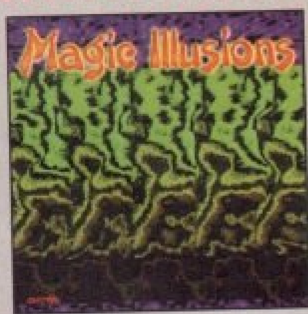
GoldFish 2

Volume 2 of the GoldFish series contains a selection of software, animations, pictures and other material released on FreshFish CD-ROM's between October 1993 and November 1994, with most of the material updated to the latest available versions. All material is included in both archived (BBS-ready) and unarchived (ready-to-run) forms. £29.95



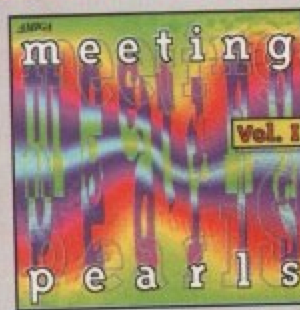
LIGHT ROM

The LIGHT ROM CD contains almost 650 megabytes of 3D objects, images, images equences, scene files, surface attributes, bump maps and textures in IFF and TARGA formats, DEMs, and Lightwave related text files. LIGHT ROM is an invaluable resource for Lightwave users, and as a bonus, includes material for Sculpt 3D and Imagine users. £44.95



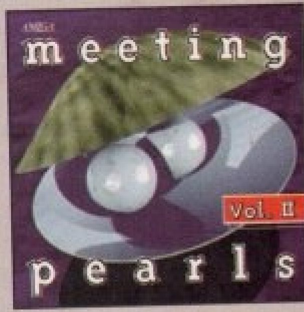
Magic Illusions

3D Stereograms on your screen! A new, interesting entertainment is born: Without special aids a three dimensional colourful and fantastic object appears suddenly on a two dimensional strangely patterned picture. The illusion of depth has already stunned millions of people around the world. Now you can view the stereograms at home on your screen! All you need is on this CD. Besides 200 stereograms with varying difficulty, there is software on the CD, which enables you to create your own 3D pictures. £12.95



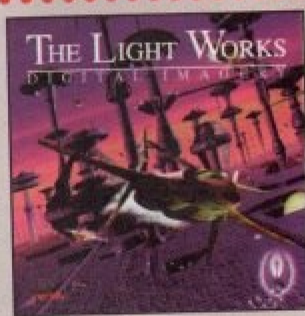
Meeting Pearls Vol. I

Meeting Pearls is the first CD to be published within the concept of „sharecompilation" and includes ca. 600 MB of top quality freeware. Most programmes are already installed or are easily installable on the hard drive via a comfortable script. The following programmes (amongst many others) are included: PasTex (latest version including 600dpi and Fax fonts), NetBSD (archived), more than 100 top-quality fractals, photographs of many Amiga personalities, several hundred installed programmes, many HTML-pages, CD index lists, FAQs, etc ... There are many software packages on this CD-ROM that are defined to be shareware. The acquisition of this CD does not include any fees or donations that might be necessary. We ask you to send the requested amount (see respective documentation) to the particular author if you use these packages frequently. £9.95



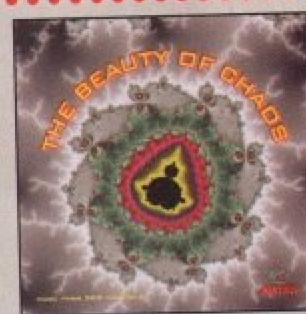
Meeting Pearls Vol. II

The Meeting Pearls Volume II contains 650 MB of the finest FD software via a special user interface, which has been created to allow you to find the program of your choice with ease. The contents: 35 MB of selected html-pages - 50 MB graphics programs and data - 15 MB games - 10 MB from "The Party '94" - 13 MB disk, hard disk - CD-ROM and SCSI tools - 19 MB various other tools - 11 MB educational software - 25 MB terminal programs - 25 MB animations, mainly from Eric Schwarz - 40 MB developer tools (e.g. pre-installed compiler (DICE, Oberon, Modula), Commodore-includes, GUI-Tools) - 9 MB music programs - 10 MB midi programs - 27 MB pictures - 60 MB texts, FAQs, CD contents files, etc. - 40 MB linux for Amiga - 100 MB TeX installation (PasTeX incl. 600 dpi and fax fonts) - 38 MB movie data base - 50 MB archives for Psion - 18 MB modules - 50 MB NetBSD for Amiga, ... £9.95



The Light Works

Raytracing - A fascinating area of the computer graphics. Pictures from the computer, perfectly rendered, fascinate people all over the world. The Amiga was the first computer to be used for raytracing, and today it is still a leader, with many high quality programs. A real artist of raytracing is Tobias J. Richter from Cologne/Germany, whose detailed objects stun the people. Especially his space ships of famous science fiction films are used to demonstrate the capabilities of a raytracing program. The objects are highly detailed and extremly realistic due to the application of complex surface textures of the models. Until now it was difficult to acquire these objects in order to create ones own scenes or animations. £39.95



The Beauty Of Chaos

Dive into the fantastic world of the fractal geometry and make a safe journey through the depths of the mandelbrot set. This CD includes: 507 mandelbrot pictures in GIF format (256 colors) in the resolutions 1140x890,1024x768, 640x480 pixel, 20 selected true color pictures in TIF-format, Graphic viewers for PC, Amiga and Macintosh (packed). £14.95

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SCHATZTRUHE

Better than the rest



Frank Nord shows you how to create a typeface and tweak it to your own satisfaction

Font designers are currently entering an era of recognition and even adulation in the design press. Names like Barry Deck and Jonathan Hoeffler might mean nothing to you or I, but their names are whispered in design circles. Barry Deck has created a rather stunning cyberpunky font called Caustic Biomorph which I am going to use as inspiration for this month's article.

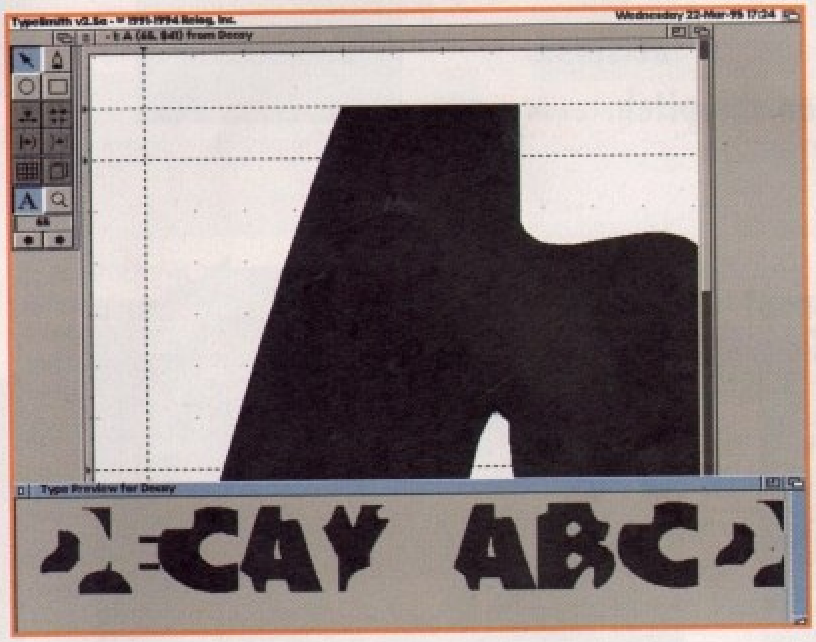
Caustic Biomorph is a fairly standard slab or egyptian serif typeface that has been given the Fontographer treatment and rendered into something quite outstanding. Deck is also responsible for what some people have called the font of the '90's, Template Gothic. Never heard of it? Well, you have almost certainly seen it, on programmes like Top Of The Pops, magazines like ID and The Face, album covers (particularly rave/trance stuff) and many other places.

ELEGANT

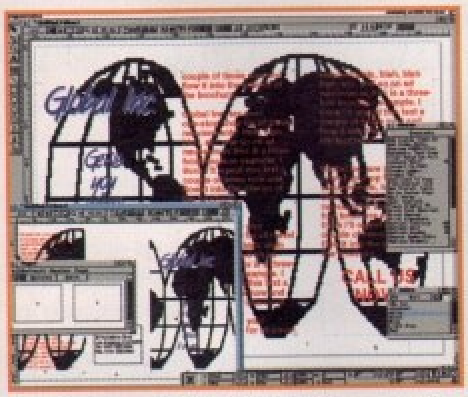
Hoeffler, on the other hand, is more interested in the origins of type design and creates new type that is elegant and austere, following inspiration from designers like Bodoni and Gill. But his work can be seen in that most up-to-date of magazines; Wired.

Enough preamble, already – let's get on and try to design our own typeface. This is an enormous topic, but we want something rough and ready that we can then play around with and tweak to our hearts' desires later. The roughest and most ready way of designing your typeface is to draw it in DPaint and import the individual characters into TypeSmith as templates for autotracing.

For the font I have created for this article, I am going to want the blobby edges autotracing gives, but you might not want this for your font.



Here are the autotraced characters from my DPaint brushes



Here's last month's tutorial looking jolly spanking in the latest version of PageStream 3

Unfortunately, there are very few shortcuts in font design, so you'll just have make all those edges nice and straight by hand. Once more, because I wanted a blobby look to my font, I have only used a very low resolution for my letters – each one is only about 100 pixels square. The more accurate the autotrace, the more detail you need in the original bitmaps – you might want to only put one character on a screen and work like that.

SATISFIED

Once the bitmap version of your font is completed to your satisfaction and you've saved each character separately to disk, it's time to load up TypeSmith. Choose 'New' from the Project menu and then 'Open IFF ILBM Template' from the Template menu. This will let you load in your bitmaps one at a time, starting with capital A. Your best bet is to load the image at its original size and then scale it up (locking the aspect ratio) to fit the x-height or ascender line. Choose autotrace but beware of the Accurate option if your bitmaps are low resolution as it may follow the stairsteps of the pixels.

Once you have laid out all 256 characters, or at least as many as you think necessary, it is time to go in and match them all to your templates as much as possible. You will need to go around each character, tweaking every vertex and its control points to ensure you end up with straight lines and corners where you want them. This is going to take you a fair while so I suggest you come back to this article when you've done it all.



A work in progress. Brushes you can see at the bottom of the screen are used for cutting chunks from the individual letters

Done? So quickly, too. Okay, now we need to deal with the spacing of the font. Check all spacing by eye for what feels right to you, but remember that your screen representations are only an approximation. I'm sure that type designers the world over are throwing up their hands in horror when I talk about spacing your characters by eye, but I've only got a single page, and anyway, this is just an experiment.

Now you have done all the setting up, all that remains is to save it out as a font format you are going to want to use, whether that be Postscript, CG or bitmapped. Remember to only design your fonts in black and white and don't make them too complex for the autotracer.

PagrStream 3 progress

In case you weren't aware, on the 8 February this year, SoftLogik finally made PageStream 3 usable, if still somewhat slow, with the release of a patch to take it to version 3.0f. This new patch followed swiftly on the heels of 3.0e because there had been a serious problem with saving documents.

I'm still not prepared to ditch my copy of PageStream 2.22 yet, but I am playing around more and more with version 3. Let's hope that now they have (pretty much) all the features incorporated, they will attack the speed issue and make PageStream run a lot faster. Currently, it isn't very efficient on my 3000T so anyone with a lesser machine should still wait to upgrade.



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Multicoloured swap shop

Amos coder Phil South looks at a way of swapping colours in your Amos programs



This month's routine comes from regular correspondent Graham Moody of Plumstead, London, who has written this nice routine for colour switching called 'switch colour.amos.' As he says in his letter: "Here's a nice little routine for swapping colours, from one index number to another. And to prove it I have made you a little demo." The demo shows you how to switch colours from the indexed colours in the palette by using a swap screen and fading between the two to give the final effect. Thanks Graham, and keep up the good work.

We start the routine by initialising everything, as per usual:

```
Curs Off : Cls 0 : Paper 0 : Flash Off
```

Then we start a loop to load all the index colours from the default palette into an array, just for the purposes of the demo:

```
For N=1 To 15
Pen N : Locate ,N : Centre "This is index
colour"+Str$(N)+" "Next N
```

Next we set the timer to 0, for the sake of timing the enterprise. (Why we have to time it, I'm not sure, but let's go with what Graham wants, shall we?)

```
Timer=0
```

Then we have the main guts of the program, which chooses two colours randomly which will be swapped later between two of the indices using the procedure:

```
Do
SC1=Rnd(6)+1 : SC2=Rnd(7)+8
Locate ,18 : Centre " swapping
colours"+Str$(SC1)+" and"+Str$(SC2)+" "
Locate ,19 : Centre Str$(Timer/50)+" seconds have
past"
Locate ,22 : Centre "press mouse key to Quit!"
```

and finally you call the procedure which has been fed the values generated:

```
SWITCHCOLOUR[30,SC1,SC2]
```

The Mouse Key line means the mouse button will terminate the program, and the For/Next loop will delay the program enough to complete the fading effect. Press the mouse button at any time and the program will stop its colour switching and revert to the Amos program.

```
For L=0 To 30
If Mouse Key : Exit 2 : End If
Wait 15 :
Next L
Loop
End
```

And that is that. Now all you need to do is define the procedure and you're outta here. The routine will swap two colours, from one index number to another. To make the colour swapping as smooth as possible, the colours are faded in:

```
Procedure SWITCHCOLOUR[SPEED,C1,C2]
CSN=Screen
```

This CSN is the current screen number, hence the name.

```
On Error Goto SKIPBUG
```

On error, either can be used to detect and trap an error without having to return to the editor window. You can either jump to a label (a sub-routine) or a proc name.

The next bit says "Find me a free screen number"

```
For S=0 To 7
Screen Display S,128,,,
Next S
```

and if there are no free screens, you must pop out of the proc:

```
Pop Proc
```

If there is an error, skip to the bug trapper routine:

```
SKIPBUG:
Resume SKIP
```

Skip opens a screen to switch to:

```
SKIP:
Screen Open S,32,32,16,0
Get Palette CSN
```

This grabs the palette of the current screen. Then we hide the colour switching screen:

```
Screen Hide S
Wait Vbl
```

Having done that we wait for the next vertical blank, which in the UK is the next 50th of a second. In the US it is a 60th, all down to screen rates. Next we read the colour register:

```
STORE1=Val(Hex$(Colour(C1),3))
STORE2=Val(Hex$(Colour(C2),3))
```

and do the colour swap:

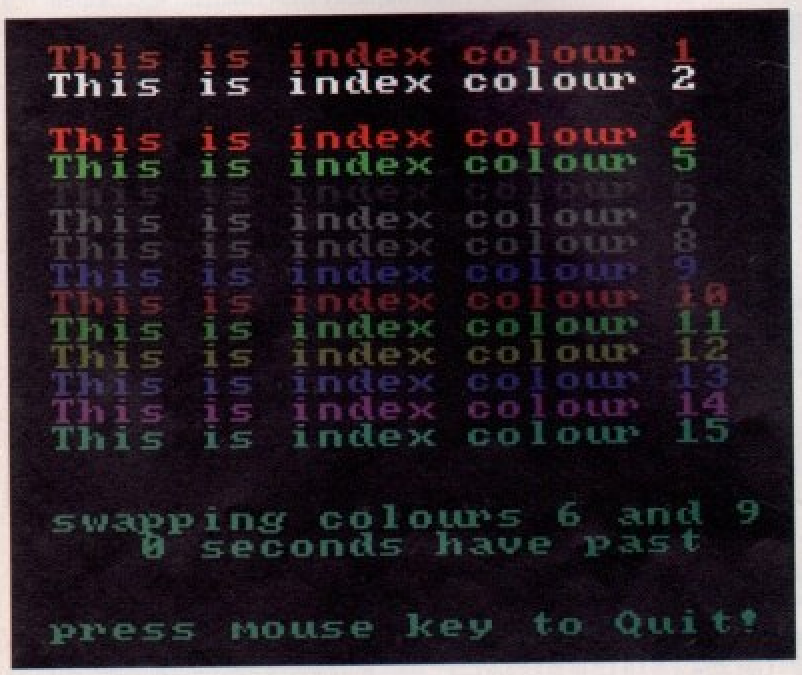
```
Colour C2,STORE1
Colour C1,STORE2
```

then we ready the screen we want to work with and fade in the new colours:

```
Screen CSN
Fade SPEED To S
Get Palette S
Screen Close S
End Proc
```

Grab the palette, close the screen and that's it. It's not a particularly fast switch, but it's a clever trick and one which might come in handy, especially if you are working with screens of different palettes.

I like the sort of Amos routines I am being sent, so keep them coming. I have a number of possibles for upcoming columns, but these can easily be usurped by a hot new routine if one arises. I'm especially interested in routines which use animation, and if the program creates its own sprites then so much the better, as I prefer not to put graphics onto the cover disk if I can avoid it, because it causes no end of problems at our end. Keep 'em short and keep 'em good, that's the Amos column motto. See you next time!



The heart of the program – swapping two colours

Write stuff

If you have an Amos question, or a routine you'd like to share with the world, then please write to Phil South, Amos Column, Amiga Computing, Media House, Adlington Park, Macclesfield SK10 4NP. Please send routines on an Amiga disk with notes on how the program works on paper. Make the routines short (use these routines as a guide) and make them reasonably independent of any graphics and sound support files, although I will make provision for these if necessary. As I said before, I prefer not to, but if it's a really good routine then we'll see what we can do.

Making a start with Midi units

Sequencing software has revolutionised music making over the last few years, but despite this it is clear there are still a great many musically-oriented Amiga users who, at least to-date, have not taken the plunge into Midi sequencing. Part of the reason may be the extra expense because to get into the world of Midi it's necessary to have a synthesizer (or sound module and separate keyboard), some Midi software, and a Midi interface. The good news though is that nowadays, none of this equipment need cost an arm and a leg.

The Dr T's KCS sequencer, for example, which is used by many professional musicians, has now reached a price level almost everyone can afford. Millenium, the main Dr T software distributor in the UK (Tel 01602 552200), sells it for just £99. Budget synthesizers are also available for less than £100 and there are always plenty of bargains to be had if you hunt around for second-hand equipment.

Low-end synthesizers might not offer things like touch-sensitive keyboards but they are fine for learning with and, in the main, sound extremely good. Half an hour wandering around your local music shop will give you a good idea of the way Midi has taken off.

By the way, one major advantage of Midi is that it is flexible – it's easily possible to connect Midi units from many different manufacturers together and, believe it or not, they will work together very well indeed!



Music magazines are a good place to hunt for second-hand synthesizer bargains



If you like music but have never connected your Amiga to a Midi synth then you are missing out. Paul Overaa explains

TECHNICAL

The other thing that sometimes puts people off the thought of getting involved with Midi is its technical side. Fortunately, it's not necessary to be a 'technical whiz' in order to use Midi. In fact, day-to-day Midi sequencing is as straightforward as any other main-stream computer application.

Nevertheless, it helps to have a rough idea of how Midi works under the surface and to at least know the principles of how things such as sequencers work. There's nothing magic about this, it's just that Midi messages are based on numbers so it's possible to use computers to store and manipulate them.

The numbers which represent these Midi messages usually get transmitted when you do something – touch a control knob, press a note on a keyboard etc. On a synthesizer, streams of numbers which represent such things as the notes being played will be transmitted at the Midi-Out terminal.

Other types of Midi equipment send similar streams of numbers and because the meanings of the numbers are all standardised, one piece of Midi equipment can understand the messages from another piece of equipment. To get one unit to talk to another you simply use a Midi lead to connect them together, using the appropriate Midi-In and Midi-Out terminals.

When you connect a sequencer program into a Midi system it can interpret and store these Midi messages, and hence record the details about what's going on as you play. In fact, what happens when you hit a note on a synthesizer keyboard is that three pieces of Midi information get transmitted – a status byte, which says 'here comes a message about a note being hit', a number representing the particular note in question, and lastly a number which indicates how hard the note was hit (non-touch sensitive keyboards transmit the fixed value here).

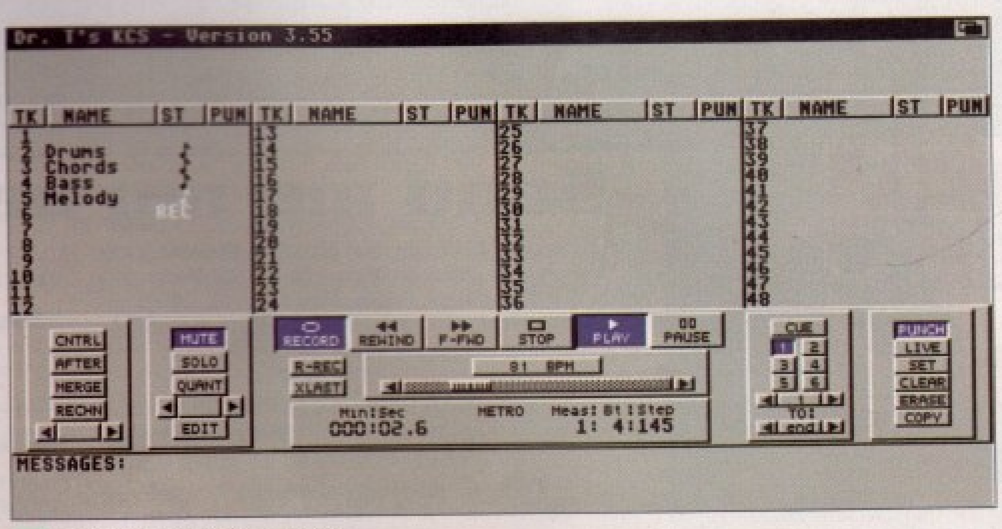
Because the status byte includes details of which Midi channel is being used, the sequencer, after it has read these three pieces of information, will know you have hit a note on the keyboard, which Midi channel you're using, which note you hit and lastly, will have a measure of its loudness. This type of information is initially stored in the computer's memory, usually as a simple list of events. However, a bit more information needs to be added before the sequencer can make use of this data – it needs to know about the time scale between various events, otherwise it wouldn't be able to play them back properly. Sequencers can usually do one of two things here. They can use their own clock to keep track of the time, or can read 'clock messages' provided by one of the pieces of Midi equipment.

One way or the other, the sequencer will measure the time interval between the various Midi events and can therefore 'time stamp' each event as it occurs. At the end of the day, the sequencer will have built a list of all the messages and times at which they have occurred.

To replay such a sequence, all the sequencer needs to do is read through this list of events and play back each event at the right time. Every Midi system, from the simplest set up to the most complex, works in essentially the same way, although needless to say the actual facilities provided will vary according to the equipment you choose.

Unanimous decision

One thing that users of all Midi systems agree on is this – even the most basic Midi system can make such a dramatic difference to the ease with which music can be created that it will allow anyone, even the absolute musical beginner, to produce compositions that sound good. If that sounds like your cue for finding out what Midi can offer you then perhaps it's time you made that visit to your local music shop to see first hand what all the fuss is about!

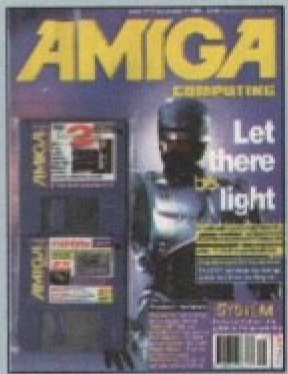


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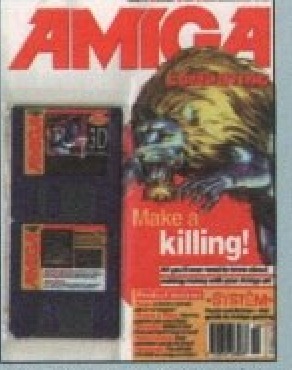
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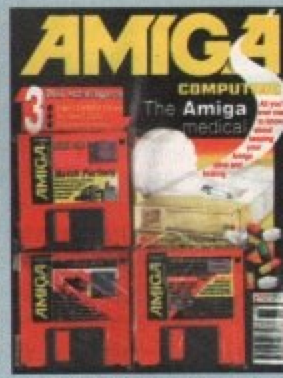
An exclusive preview of the new stand-alone Lightwave PAL, plus all its essential add-ons. A first look at PageStream 3.0. Retina III, MainActor and a DIY guide to building a home studio.
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OCTOBER



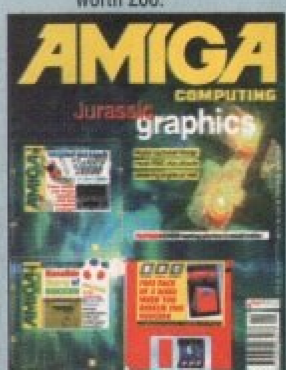
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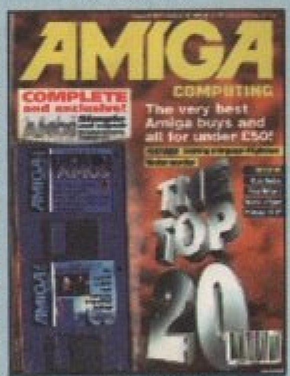
We reveal all you need to know about Amiga maintenance. Plus reviews of Warp Engine, Image F/X 2 and 3D CD's.
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DECEMBER



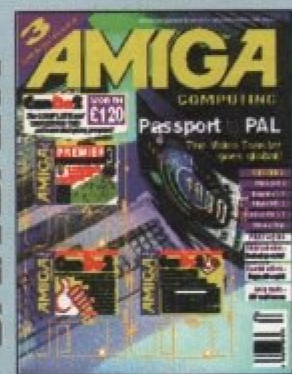
AC test drives the Raptor accelerator and talks to the people who use it to create their commercial graphics. Plus reviews of World Construction Set, Wavemaker, TurboCalc v2 and Bertie Bunny!
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CHRISTMAS



Want a list of the top 20 best Amiga buys? Look no further than our countdown of the cream of products for your machine. Plus a monitor roundup, Final Writer 3, VLab Motion and more reviewed.
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JANUARY



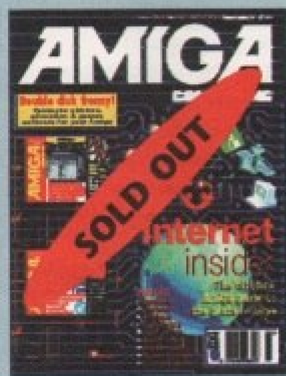
The Video toaster finally arrives on the shores of Britain with the help of the Passport 4000. Also take a look at Imagine 3.1, Wordworth 3.1 and see hidden 3D pictures with StereoCAD.
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FEBRUARY



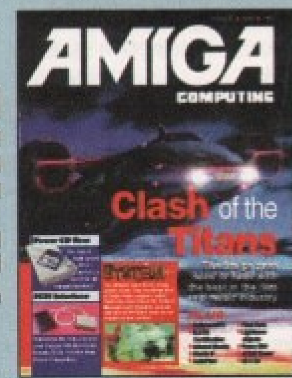
We go behind the scenes of Aardman Animations, those talented folk responsible for The Wrong Trousers and a rather large quantity of TV commercials – most of which have been given a helping hand by the Amiga. Plus reviews of Termite, Photogenics and Gamesmith.
ON 2 DISKS: The complete and unrestricted version of AnimWorkshop and a chunk of shareware products to boot up and use.

MARCH



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APRIL



We go behind the scenes of Cyberjack, a film whose special effects are being created entirely with Amigas. Plus reviews of Hollywood FX, Final Data, Studio Pro II and Dice C Compiler.
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MAY



We take the first look at Lightwave 4 and its improvements. Plus reviews of Cross Mac, DPaint 5, Aminet 1, Cobra 275MHz and CanDo 3.
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Overscan – the big picture

Gary Whiteley looks at Overscan, something which can be as confusing as resolution, mainly because there are often disparities between different software as to what resolution overscan should be

Overscan describes a video image which more than adequately fills the entire screen of a video or TV display. Overscan is necessary because various TVs and monitors may be set up differently – with slight variations between horizontal and vertical alignments etc. so to ensure an image fully covers the screen, overscan images are usually employed for video work.

For example, while a 640 x 512 image may look fine on your computer monitor, it won't necessarily work on a video display because it might not reach the edges of the screen. While this shortcoming may not be apparent with a screen of text on a plain, colour 0 background, once you start genlocking or mixing graphics with video the edges will soon become very visible, particularly where items animate on and off screen.

The result of using a non-overscan image mixed or genlocked with video is that border regions will be very obvious where there are no graphics around the edges of the video display.

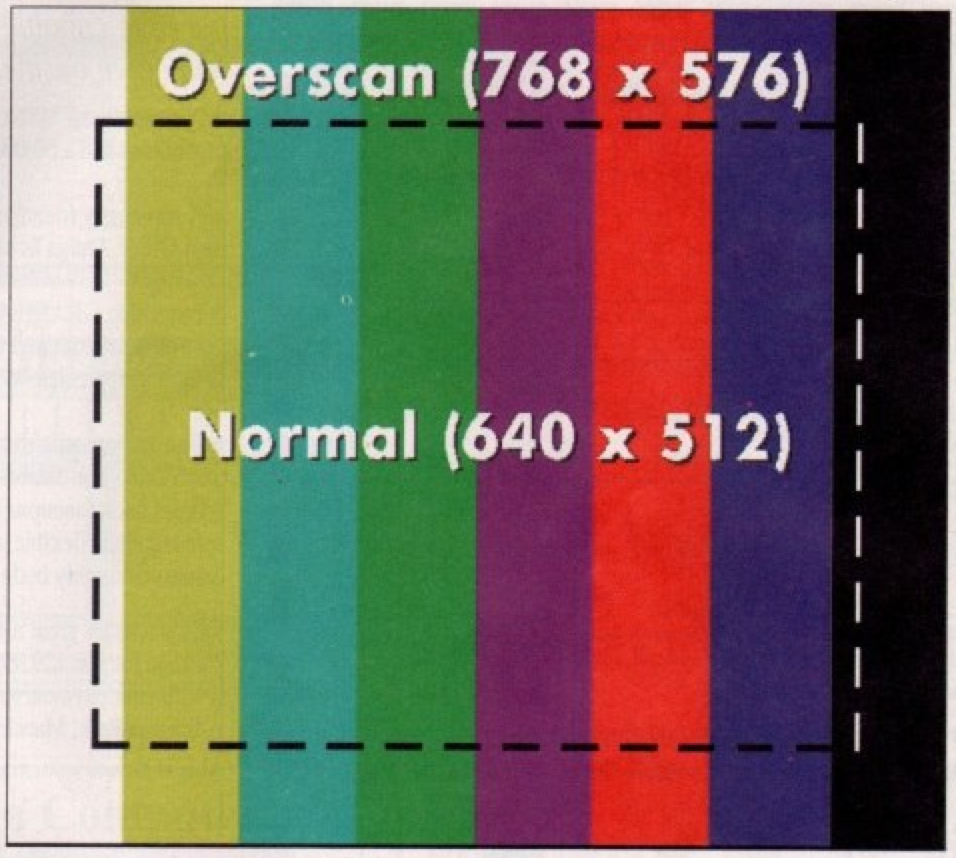
The accepted PAL overscan resolution in hi-res interlace is 768 x 576 pixels (384 x 288 in lo-res) but different programs seem to have been developed by folks who, for whatever reasons, weren't prepared to stick to the accepted norms, so there can be frustrating variations to deal with when moving images from one program to another.

Version to version

Electronic Art's Deluxe Paint was more guilty than most in this respect and its overscan sizes weren't just 'wrong', they were apt to change between versions, making the display of older images more unreliable (at least as far as overscan placement went) when used in conjunction with newer versions of the software. DPaint 4's maximum overscan was 736 x 580, but EA weren't the only culprits, and even now there appears to be no common consensus of what constitutes full PAL overscan.

The hardest thing about overscan is getting your images centred correctly and, while there's not enough room to give a full explanation here, much of it revolves around setting up the Amiga's Overscan Preferences correctly – which can be a right pain depending on the video/paint software and the genlock and video setup you use.

Add to this the fact that the Amiga doesn't produce a truly full-width overscan image, and some genlocks can leave a gap of several lines at the top of the video screen, and you'll realise how frustrating initialising your overscan settings can be. I choose to save several different overscan preferences to deal with a number of specific situations and can recall them at will by saving each setting as a different screenmode file and putting them in my ToolManager's pull-down menus for recall as needed.



An overscan image is larger than your average image to ensure no edges show on your TV screen

If you want to set up your Amiga/Video system to best advantage, why not make a set of colour bars in full hi-res interlace overscan and use them to determine the best placement on your video screen or monitor? Not only will you be able to set your Overscan Preferences up but you'll also be able to set the colour and brightness of your monitor at the same time.

Grid division

To make a colour bar screen use a paint program which can do 768 x 576 pixels (or use half this – i.e. 384 x 288 if your Amiga doesn't have much memory) and set up a grid to divide the screen into eight equal horizontal sections. Then, from left to right, draw eight full height rectangles in the following colours (RGB scale 0-15) ; White (RGB 10,10,10), Yellow (10,10,0), Cyan (0,10,10), Green (0,10,0), Magenta (10,0,10), Red (10,0,0), Blue (0,0,10), Black (0,0,0). This colour bar very closely resembles a standard video test pattern, unlike some I've seen provided with video and graphics software over the years!

Then run the Overscan program from Preferences and, by flipping back and forth between Amiga screens (use Right-Amiga-M), set the overscan prefs so that the full screen is covered with your bars image. You can do this with both your standard Amiga monitor and your genlock/video monitor. One disadvantage of overscan is that the larger image sizes require more memory. This limitation soon becomes apparent on standard Amigas such as the A1200 or unexpanded older machines (which came with very little memory as standard), especially where animations are concerned. Low memory and overscan are mostly mutually exclusive, unless the images concerned have only one or two bitplanes – i.e. they use a very limited range of colours.

However, learning graphics on a memory-deficient Amiga does hone your artistic skills and forces memory conservation through necessity. Mind you, even well-equipped Amigas can suffer when it comes to 24-bit hi-res interlace overscan images which may well require over 1Mb of memory just to display, never mind to create.

One good tip is that unless you have to use overscan, don't. If your images or animation only need a plain background and don't move on and off screen, you can save a lot of memory (or make larger animations) by working in 640 x 512 only. In general, I wouldn't recommend using lower overscan resolutions unless you want jagged edges on your graphics.

Jargon busting

PAL – the TV standard employed in the UK, much of Europe and many Commonwealth and ex-Commonwealth countries.

Overscan – a method of ensuring that, despite set-up variations, a displayed image will always fill a TV screen completely, with no visible borders. Overscan images are larger than the standard screen display.

Contact

Gary Whiteley can be e-mailed as drgaz@cix.compulink.co.uk.



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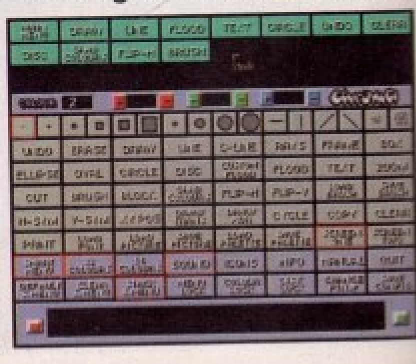
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LOW PRICES

IDE/SCSI 2.5"/3.5" HD

Our high quality 2.5"/3.5" IDE/SCSI hard drives come with a one year warranty. The 2.5" HD's come with cable & manual.

80MB 2.5" IDE	£109
120MB 2.5" IDE	£139
170MB 2.5" IDE	£179
260MB 2.5" IDE	£219
350MB 2.5" IDE	£299
525MB 2.5" IDE	£589
735MB 2.5" IDE	£759
270MB 3.5" IDE/SCSI	£199
350MB 3.5" IDE/SCSI	£239
540MB 3.5" IDE/SCSI	£279
1GB 3.5" IDE/SCSI	£599
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OVERDRIVE HD



External PCMCIA HD allows you fit a 3.5" IDE hard drive and included in the pack is the installation software which allows you to configure the drive to your own needs.

OVERDRIVE BARE	£99
OVERDRIVE 360MB	£259

M-TEC HD

LOW PRICES



The AT-500 IDE external hard drive for the A500 comes complete with an internal ROM socket so you can switch between a 2.04 and 1.3 ROM without having to open your Amiga casing.

AT-500 BARE	£99
AT-500 360MB	£259

SYQUEST DRIVES

Removable storage systems from Syquest.

3.5" 105MB SCSI INTERNAL	£279
3.5" 270MB SCSI INTERNAL	£449
EXTERNAL CASING	£99
105MB SYQUEST CARTRIDGE	£55
270MB SYQUEST CARTRIDGE	£79

OPTICAL DRIVE



The award winning 128MB Power Optical

128MB OPTICAL INTERNAL	£639
230MB OPTICAL INTERNAL	£799
128MB OPTICAL DISK	£29
230MB OPTICAL DISK	£39
SCSI CONTROLLER CARD	£129

VIDEO BACKUP 3.0

This innovative product allows you to backup your software onto a VHS cassette, so you can store up to 520MB on one four hour tape. Version 3.0 has new backup modes for Amiga's with a 68020 or higher CPU, a new user interface that also runs on the Workbench screen, a two times speed improvement over v1.5, data compression over three times faster than v1.5 and also able to watch television on your 1084s monitor.

VIDEO BACKUP SCART	£65
VIDEO BACKUP PHONO	£60
UPGRADE TO V3.0	£20

DISK EXPANDER

Disk Expander includes the following features:

- Can add up to 50% to your hard drive capacity
- Fast compression and decompression
- Works with all drives including SCSI, IDE, Floppies and even the RAM disk
- Reliable in tests, no data corruption
- Flexible and expandable as new compression libraries are developed
- Once installed the program is transparent to the user
- Works on any Amiga with any Kickstart

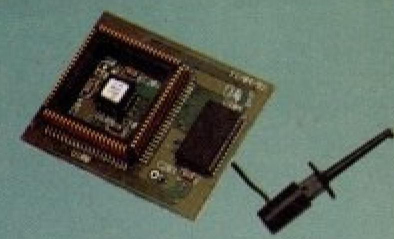
DISK EXPANDER	£25

FLOPPY EXPANDER

Floppy Expander allows you to fit about 1.5MB on a standard floppy drive and an amazing 3MB when used in conjunction with the XL Drive 1.76MB. This is achieved by compressing data 30 - 70% of its original size, which all of this happens automatically.

FLOPPY EXPANDER	£10

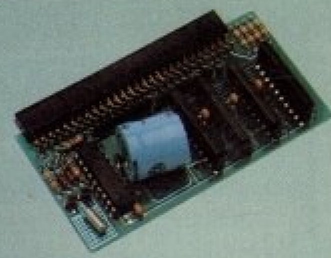
MEGACHIP RAM



Increase your Amiga 500/2000 chip RAM to a total of 2MB. MegaChip does this by using its own 1MB of RAM and drawing extra memory from any other RAM you have installed in your Amiga. No soldering required.

MEGACHIP RAM	£159

RAM UPGRADES



We manufacture a vast range of memory cards for all the Amiga range of computers.

512K RAM WITH CLOCK	£24
512K RAM WITHOUT CLOCK	£19
A600 1MB RAM	£34
A500+ 1MB RAM	£29

A500 2MB RAM



A 2MB RAM board for the A500 which fits in the trap door slot.

A500 2MB RAM	£90

WORKBENCH 3.1

Release 2.1/3.1, inc. 2.1/3.1 software an[d] user guides.

2.1 ENHANCER SOFTWARE	£4
ROM SHARE DEVICE	£1
2.05 ROM CHIP	£2
3.1 A500/A2000	£8
3.1 A3000/A4000	£9

SPECIAL OFFER

2.05 ROM, DISK & MANUAL	£5

Squirrel SCSI
CD-ROM • TAPE DRIVE • MAGNETO OPTICAL • HARD DISK • SYQUEST • SCANNER • FLOPTICAL

NICE ONE SQUIRREL!

Amiga Format 93% CU Amiga 94%
Amiga Shopper 95% JAM "The best piece of hardware I've ever bought for my A1200 ... well done, HiSoft!"

As you can see, the Amiga press has gone nuts over our new Squirrel SCSI interface for the A600/A1200. In case you've missed these reviews, the Squirrel SCSI is a plug-and-play add-on that allows you to connect up to 7 SCSI peripherals to your Amiga. Just think of it, CD-ROM, Hard drive, Scanner, DAT, Optical, SyQuest, Tape Streamer - all on line at the same time! No wonder we named it after that famous storage-hungry animal! To go with Squirrel, here are some great value devices...

SCSI CD-ROM Drives



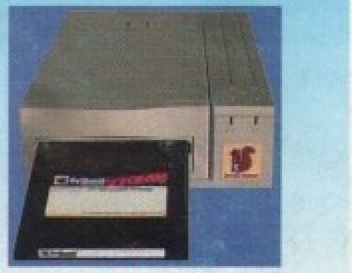
Squirrel 2x - int £129, ext £189
New! Squirrel 4x - int £199, ext £259

Introducing our brand-new quad-speed CD-ROM drive, the Squirrel 4x; a feature-packed, lightning-fast drive at a stunning price. This is the flagship of our range of CD-ROM drives, all designed to suit your needs and your pocket.

Squirrel CD-ROM drives are cased in extremely stylish enclosures with all SCSI connectors and offer fast access times, stereo headphone sockets with volume control, phono line output, PhotoCD™ multi-session support, CD32 emulation (with the Squirrel SCSI interface), CD-DA compatibility with the convenience of tray-loaded action. The Squirrel 2x CD-ROM drive offers 300Kb/sec transfer while the Squirrel 4x attains 600Kb/sec (sustained) with a 190ms access time, the fastest CD-ROM yet on the Amiga.

These are the drives we use for developing and testing the Squirrel hardware and software - need we say more?

SyQuest Drives



88Mb - int £269, ext £329
270Mb - int £419, ext £479

Introducing removable SCSI drives for your Amiga. Based on reliable, proven SyQuest™ mechanisms, these 88Mb and 270Mb units offer transportable, compact, high performance and, above all, expandable storage for all your computing needs. SyQuest is the world leader in this technology across computer platforms which means that you can transfer work between Amiga, Macintosh™ and PC, with ease. We recommend the CrossDOS and CrossMac software packages to simplify portability - *call for pricing*. Our drive prices include 1 free cartridge.

SCSI Hard Drives





270Mb £169, 540Mb £239
730Mb £279, 1Gb £479
Add £60 for external units

Hard drives are becoming more and more affordable and we can now offer some tremendous prices on a range of superb quality, Quantum drives in a range of capacities.

These drives offer fast seek times (14ms @ 270Mb, 11ms @ 540/730Mb, 9ms @ 1Gb), large caches and high speed data transfer rates (1.5Mb/sec with Squirrel). All units can be supplied for you to fit in your own case or pre-installed in one of our professional Squirrel Storage Cases. The Squirrel does not auto-boot external hard disks but you can do this from floppy or from internal IDE hard disk.

We can supply all leads, terminators etc. Please feel free to discuss your exact requirements with our friendly, technical staff.

Squirrel Storage Systems



All our Squirrel Storage Systems come either bare (*int* - ready for installation internally within a suitably-equipped Amiga or other computer) or fully-cased (*ext*) with integral power supply, SCSI in/out, SCSI ID selector and audio out (for CD-ROM). The cases we supply are high quality, shielded, snap-together enclosures, each with 40W power supply - the back panelof the 5.25" case is shown above. These SCSI enclosures are available at **£69.95** each (please specify 3.5" or 5.25" when ordering).

The neat Squirrel SCSI interface is shown on the right. The unit simply plugs into the PCMCIA slot, comes complete with all the software you need together with a cable which terminates in a 50-way Amphenol plug to attach to your first SCSI device.



the Squirrel SCSI interface

Twist 2

Twist 2 is the new, friendly, relational database for all Amigas. Twist's range of power features such as its integrated forms designer, its varied & multi-level querying, its N:1 1:N & N:M relations coupled with its un-cluttered, well-designed user interface make it ideal for both the first-time and the seasoned database user.



Twist 2 is the only database you will ever need - a product that expands to meet your requirements as they grow. So, before you buy another database, why not take a look at the Twist demo disk?

AURA

The latest of our highly acclaimed sound samplers for the A600/A1200, Aura offers high performance 12/16 bit quality with direct-to-disk sampling plus a host of software features. Octamed 5.04 up compatible.

96% Amiga Shopper 90% AUI

GAMESMITH

Professional game development is made easy with the new GameSmith Development System. Over 3 years in the making, GDS gives you the low level power to create the masterpiece of your dreams in a single, easy-to-use, comprehensive environment, using C or assembler. Comes complete with junior versions of Dice C and Devpac 3. ***90% AUI 92% CU Amiga***

Termite



Afraid of becoming a hedgehog on the Information Super Highway? Don't worry, Termite is so easy to use that even a first time user will feel at home. Yet it has all the power and flexibility to satisfy the most seasoned modem warrior!

Termite is packed with features and comes with its superb Button Bar already set up for instant access to CIX and many BBSs. ***88% Amiga Computing 95% AUI 88% CU Amiga***

Ordering Information

All HiSoft products (see the complete list below) should be available through your favourite Amiga dealer. If you have difficulty in obtaining any title you can order directly from HiSoft - just call us free on 0500 223660, armed with your credit or debit card; we will normally despatch within 4 working days or, for an extra £6, by guaranteed next day delivery (for goods in stock). Alternatively, you can send us a cheque or postal orders. All prices include VAT. Export orders: call or fax to confirm pricing and postage costs. © 1995 HiSoft. E&OE.

HiSoft products for your Amiga: Squirrel SCSI interface - £69.95, Squirrel Storage Systems - as above, Aura 12/16 bit sampler - £99.95, Megalosound 8 bit sampler - £34.95, ProMidi interface - £24.95, HiSoft Devpac 3.14 - £79.95, HiSoft BASIC 2 - £79.95, HighSpeed Pascal - £99.95, Gamesmith - £99.95, Termite - £39.95, Twist 2 database - £99.95, Maxon Magic - £29.95, Upper Disk Tools - £14.95, VistaLite inc MakePath/TerraForm - £39.95 and much more. **Coming soon: DiskMagic** (disk tools) **and Cinema4D.**



HiSoft SYSTEMS

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